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SAFETY AND SOUNDNESS ISSUES RELATED TO BANK DERIVATIVES ACTIVITIES—PART 1

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Safety and Soundness Issues Related...

HEARING

BEFORE THE

COMMITTEE ON BANKING, FINANCE AND URBAN AFFAIRS HOUSE OF REPRESENTATIVES

ONE HUNDRED THIRD CONGRESS

FIRST SESSION

OCTOBER 28, 1993

(PART 1)

Printed for the use of the Committee on Banking, Finance and Urban Affairs

Serial No. 103-88

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SAFETY AND SOUNDNESS ISSUES RELATED TO BANK DERIVATIVES ACTIVITIES—PART 1

THURSDAY, OCTOBER 28, 1993

HOUSE OF REPRESENTATIVES,
COMMITTEE ON BANKING, FINANCE AND URBAN AFFAIRS,
Washington, DC.

The committee met, pursuant to notice, at 10 a.m., in room 2128, Rayburn House Office Building, Hon. Henry B. Gonzalez [chairman of the committee] presiding.

Present: Chairman Gonzalez, Representatives Neal, LaFalce, Kennedy, Flake, Bacchus of Florida, Klein, Barrett of Wisconsin, Leach, Roukema, McCandless, Baker, Nussle, Knollenberg, Grams, Huffington, and Castle.

The CHAIRMAN. The committee will please come to order.

This hearing this morning is to examine the new—erstwhile, supposedly new—phenomenon that now is also embraced by or sweeping the banking industry, the so-called derivative products. The aggregate credit exposure to the U.S. banks from derivative holdings is estimated to be $100 to $200 billion.

Well, that is a pretty big spread, and the reason for that, which I think is inaccurate on the extreme conservative side, is that in our country, it is just harder to get the statistics. On the other hand, I have had the good luck to have good European sources, and according to some, *Financial Times* of London, for instance, October 20, says the national amount of futures contracts traded on the world's exchanges is $140 trillion, and national outstanding swaps is about $4.5 trillion.

Now, the Bundesbank issues a monthly report, you know. We are having all this debate about whether our central bank should even report. But the Bundesbank does, and in its October report it expresses grave concern about this activity. It warns of, quote, explosive growth of off-balance sheet financial derivatives.

From that report, they estimate that German banks have outstanding derivative contracts of nominal value of $6 trillion DMs. The report speaks against, and I am quoting, netting out derivatives, which, of course, are the favorite United States, and our British conferees, processes; typical.

This, as I understand it, is an attempt to reduce exposure of risk. But when we look at the statistics that are provided, for instance, the tremendous amount the Bundesbank estimates means that even if 3 percent of the average American participant were that, just say 3 percent, in terms of volume of dollars, that is still an av-

erage of around $45 billion, which exceeds the equity capital of any of those banks.

So I think the record ought to show that I have been concerned about this for quite some years, and particularly since 4 or so years ago. I had a discussion with the Chairman of the Federal Reserve 4 years ago, because my fear is yes, of course, these fears expressed even by the Bundesbank reports, they should concern us, and, of course, our prime responsibility is the safety and soundness of our financial institutions.

But more importantly than that is the entire, larger context against which the whole fate of this country and its economic and financial freedom rests, and that is the value of our currency, of our dollar. There is no question that within 20 years, the value of our dollar has diminished two-thirds against the yen and the DM.

So when on September 15, 16, somewhere around there, 1985, the Department of Commerce announced that we were a net debtor nation for the first time since 1914, I became concerned. And I had speeches—we call special orders—on the House floor for which now and then there has been some discussion about the, either the quixotic or the abnormality of such practices.

But anyway, it is in the record; it is not what I am saying now. I believe that our destiny is very fatefully being decided even as we sit here this morning.

Now, I am going to ask unanimous consent that the prepared introductory remarks be printed in the record, and I will just sum up by saying that that is the reason that we are very grateful. I am very grateful to the witnesses who reacted and responded to our invitation on quick notice, and particularly the regulators. We know that this activity today worldwide is of such enormity that it is difficult to even define or appraise, and beyond the national sovereignty of any one given country to really control or regulate, so I have a very sympathetic feeling for those that are entrusted with this heavy responsibility of being regulators in our country.

And with that, I recognize Mr. Leach.

[The prepared statement of Mr. Gonzalez can be found in the appendix.]

Mr. LEACH. Well, thank you, Mr. Chairman, and let me first congratulate you on holding a timely hearing. I also must say that I personally know of no Member of the U.S. Congress who brings a more personal and a more historical overview to legislation than you do.

I have an extraordinarily lengthy statement, and at the risk of presumption would just ask that it be put in the record.

The CHAIRMAN. Without objection, it is so ordered.

Mr. LEACH. I would also like, if I could, to just take 30 seconds for a few comments. I would also like to ask unanimous consent to put in the record a series of questions that I have submitted to regulators——

The CHAIRMAN. Without objection.

Mr. LEACH. On the subject of derivatives for which they have produced some very substantial and solid responses, the minority is currently in the process of producing a synthesis report on those responses, tying them all together. I would like to ask consent that it be put in the record as well.

The CHAIRMAN. Without objection.

[The information referred to can be found in Part 3 of this hearing.]

Mr. LEACH. And then I would only observe that in the financial industry, derivatives are instruments designed in many ways to reduce, rather than enhance risks. On the other hand, in coming from the Midwest, as Ms. Phillips here does, who is the former Chairperson of the Commodity Futures Trading Commission, it is clear that a very thin line exists between hedging and speculating. No one knows that more than the farmer, and frankly, those that operate in the commodity markets.

So Mr. Ludwig, when you look for advice on this subject, I hope you talk with Ms. Phillips who probably has as much experience as anyone in the government in this particular area.

I would only conclude with the following observation about the history of the last several decades of finance. Whenever any product has grown extraordinarily rapidly, there seems to be an element of risk that is higher than average. On the one hand we are seeing something happening in banking and finance that is unbelievably positive. That is, we are seeing the deposit insurance system becoming much stronger. By the end of this year, it is estimated that the fund will have a positive balance of $10.9 billion, approximately 0.58 percent of the assets under protection. It is expected to reach 1.25 percent maybe in 3 years, if not less, which implies the possibility of a dramatic reduction in premiums in deposit insurance.

On the other hand, if risk escalates in these new areas, it is conceivable that deposit insurance premiums will have to be maintained longer than would otherwise be the case, unless this risk can be managed. It is also conceivable that quite literally the banking system, by the turn of the century, if the deposit insurance system stays solvent, will not have to pay any premiums, because of the interest earned on the $25 to $35 to $40 billion reserves in the fund.

So regulators have to bear that in mind, because we have a circumstance that risk might be taken by one kind of institution, with the insurance for that risk transferred to another kind of institution.

Finally, it is interesting that at the same time the private sector has developed these new instruments, it has also developed techniques to contain risk. We have an enormous political science dilemma: What happens when we have a problem which is beyond the sophistication of Congress and other political entities?

And if that is the case, it falls upon regulators to be particularly concerned and sophisticated in matching the sophistication of the private sector. So without legislation, this is a responsibility you have; and with legislation, it could be a responsibility that you also will have. But I would just stress to all of you that Congress puts an enormous, enormous burden on you to understand derivatives in the strongest possible way and to ensure that risk is contained to the maximum possible extent.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Leach can be found in the appendix.]

The CHAIRMAN. Thank you. If you can yield just a half a second of your time, I would like to ask unanimous consent to place in the record this paragraph from this report I referred to from the Bundesbank, and I quote:

"The question whether derivative instruments contain inherent risk for the stability of the international financial system has been debated so far without any clear conclusion. In the event of a collapse of a major market participant in derivatives, or a serious destabilization of financial markets, it is not at all certain whether the security reserves of banks would be sufficient." End of quote.

The Chair is ready to proceed and ask unanimous consent that all members, both present and absent, have the privilege of placing in the record at this point any opening statements they may wish. I don't want to pass over anybody, but unless a member feels they want to speak immediately, we will proceed, and recognize the witnesses.

[The prepared statements referred to can be found in the appendix.]

The CHAIRMAN. Let me add that we don't know what the program today will call for. The House is in session, and we want to reduce the interruptions on account of recorded vote notices.

So if there is no objection, we will proceed with the witnesses, and again, if there is no objection, unless one of the participants has a time problem, why don't I recognize you from my left to the right and start off with Mr. Ludwig.

STATEMENT OF EUGENE A. LUDWIG, COMPTROLLER, OFFICE OF THE COMPTROLLER OF THE CURRENCY

Mr. LUDWIG. Thank you very much, Mr. Chairman and members of the committee. I appreciate this opportunity to testify on financial derivative instruments. I have submitted detailed answers to the questions the committee asked, and I am prepared to elaborate on those answers or address any other questions that members of the committee may want to ask on this subject.

Today I would like to emphasize several points. One, when properly used, financial derivatives can provide banks and the public with substantial benefits. By separating out the risk components of traditional financial instruments, derivatives can, and do, lower the risk of financial transactions for banks and others.

Two, when improperly used, financial derivatives, like other financial instruments, could lead to significant problems for banks. Further, because of the way derivative products link market participants, a failure at one bank might threaten the solvency of other institutions.

Three, fully appreciating the concern present in many quarters about bank involvement in derivative activities and about the adequacy of regulatory supervision of those activities, I have given particular attention to national bank involvement in derivatives. I am determined that the OCC remain fully up to speed in this area. Moreover, I recognize the OCC's responsibility, not just to monitor, but to take effective steps to ensure that national banks engage in derivative activities in a safe and sound manner.

As the first step in this effort, I formed a task force to review all of our policies and procedures in this area and to recommend changes for improvement. One of the first fruits of that task force is guidance to national banks on what we expect from banks that are active in derivatives. We issued that guidance yesterday and sent it to every national bank and all our examiners.

This guidance, Banking Circular 277, addresses the types of systems and controls that the OCC considers appropriate at this time to manage derivative risks. It also alerts national banks to significant legal issues associated with derivative transactions.

Our basic approach in this area can be summarized in two words: No surprises. Specifically, we are, in effect, requiring that national banks engaging in derivatives activities adopt a "no surprises" risk management policy that is backed by adequate systems and controls. More specifically, we are, in effect, requiring banks active in derivatives to adopt policies and procedures that include: (1) an independent unit to assess risks in their derivatives activities; (2) systems to ensure that senior management, including the CEO and the board of directors, understands and controls risks in the derivatives business; (3) appropriate monitoring and capital levels; (4) periodic reviews of systems and personnel by management and the OCC; and (5) a responsibility that the bank selling of a derivative asset assesses its appropriateness for its customers.

Mr. Chairman, if an OCC examiner concludes that a national bank's risk management processes are inadequate for current or planned activities, the OCC will require management to correct the problem promptly or face sanctions for not doing so. Further, if an examiner believes a bank has taken on too much risk in connection with derivatives, the examiner will raise this concern first to the OCC and bank management and then, if appropriate, with the bank's board of directors. Where appropriate, the OCC will require the bank to reduce its risk to a more modest level or to raise additional capital to compensate for the risk level it has assumed.

In closing, Mr. Chairman, any regulatory approach we take to derivatives should recognize and respect the important and legitimate functions that these financial instruments serve. But it is our responsibility to ensure, and we are committed to ensuring, that banks are taking the necessary steps to manage the risks that accompany their increasing use of these instruments.

I look forward to addressing your questions.

[The prepared statement of Mr. Ludwig can be found in the appendix.]

The CHAIRMAN. Thank you very much. Ms. Phillips.

STATEMENT OF SUSAN M. PHILLIPS, MEMBER, BOARD OF GOVERNORS OF THE FEDERAL RESERVE BOARD

Ms. PHILLIPS. Thank you very much, Mr. Chairman.

Mr. Leach, members of the committee, thank you for the opportunity to present the views of the Federal Reserve Board on safety and soundness issues associated with derivatives activities of banking organizations.

The Board believes that these are important issues. We are devoting substantial resources to improving understanding of deriva-

tives and to developing appropriate public policies for these instruments.

By way of background, a derivative is a financial contract whose value is derived from the values of one or more underlying assets or reference rates or indexes of asset values. Derivatives include standardized contracts that are traded on futures and securities exchanges and also customized, privately negotiated contracts known as over-the-counter, or OTC, derivatives.

The Board believes that the development of new derivatives products and the overall expansion of derivatives activities have provided important public benefits. The primary economic function of derivatives is to transfer market risk; that is, the risk of an adverse change in the price of an asset or portfolio of assets. The importance of this function has increased as competitive pressures have intensified in many economic sectors, and as interest rates, exchange rates, and other asset prices have tended to be quite volatile.

In this environment, many financial and nonfinancial businesses, federally sponsored agencies, and State and local governments have concluded that active management of their exposures to financial market risks is essential. They recognize that such risks, if left unmanaged, can jeopardize their ability to perform successfully their primary economic functions.

At the same time, the Board recognizes that derivatives are complex instruments. If not clearly understood and properly managed, their use can threaten the safety and soundness of banks and other users.

To date, few institutions have suffered significant losses from derivatives activities, and no commercial bank has failed as a result of such activities. But the potential clearly exists for an individual bank or other institution to misuse derivatives in ways that create risk exposures that could materially weaken its financial condition, either because of ignorance, or because of an imprudent attitude toward risk.

The Board also is concerned that derivatives activities could have implications for the stability of the financial system. Whether derivatives have increased or decreased systemic risk is still a subject of ongoing review and analysis. Derivatives have fostered greater awareness and understanding of risks, and have enhanced methods of risk management.

It is clear, however, that derivatives activities have become a significant factor in the overall risk profiles of some banks and other financial intermediaries. While still relatively few in number, these institutions are among the largest and most active in the financial and banking markets. If one of them failed to manage its derivatives activities prudently, its financial condition could be weakened, and concern about its financial health could jeopardize the smooth operation of financial markets. More generally, derivatives have been a major factor in tightening linkages among markets and potentially altering the transmission of economic and financial shocks.

Finally, it is also clear that weaknesses in the financial infrastructure for derivative activities is a potential source of systemic problems.

The Federal Reserve has developed a strategy to address the concerns about risks associated with derivatives activities. It has three basic elements.

First, the Board has used its banking supervisory authority to attempt to ensure that the risks associated with derivatives activities of the institutions it regulates are prudently managed, and do not pose a threat to the deposit insurance fund. As discussed in detail in my written testimony, along with other banking supervisors, both in the United States and abroad, the Federal Reserve has worked to incorporate such risks into regulatory minimum capital requirements.

At the same time, however, the Board's policies have emphasized the responsibility of a bank's senior management for ensuring that risks of the institution's derivatives activities are effectively controlled and are limited to levels that do not pose a threat of seriously impairing its capital.

The on-site examination and evaluation of internal risk management systems, models, and controls are the most important elements of our supervision and regulation of derivatives activities. Examiners assess the risk management systems and internal controls in the banking organization's core trading and derivatives activities. They devote special attention to new products and new approaches to risk management and control.

Accordingly, the Federal Reserve has made the continuous updating and strengthening of policies and procedures for on-site examination of derivatives a top priority.

The second element of our strategy is the encouragement of private sector initiatives to foster sound risk management of derivatives activities. Because banks are not the only large-scale users of derivatives, concerns about risks to individual institutions and to the financial system must extend to other entities, some of which are not subject to prudential regulation by banking supervisors or other authorities. Private sector initiatives offer the promise of strengthening risk management practices of both regulated and unregulated entities in the United States and abroad.

As the third element in our strategy, the Board has worked with users of derivatives, other regulators in the United States and abroad, and legislators to strengthen the financial infrastructure for derivatives activities. To date, these efforts have focused on legal enforceability issues. In particular, the Board has supported a series of legislative steps to ensure the enforceability under U.S. law of the netting agreements that are now widely used for OTC derivatives.

Further efforts to modernize the financial infrastructure for derivatives are needed, both on legal issues and on other issues, most notably in the area of accounting and financial reporting.

The Board believes that this constitutes a sound and appropriate strategy for addressing public policy concerns about potential risks from derivative activities. The Federal Reserve and other banking supervisors have made significant progress in strengthening policies related to bank derivatives activities. We believe that the banking regulators have the authority necessary to address such issues as accounting and financial reporting.

With respect to other users of derivatives, at this time the Board believes that official encouragement of private sector initiatives is the most effective way of addressing public policy concerns about risks to individual institutions and systemic risks. Nonetheless, the Board continues to analyze these issues and plans to monitor carefully the progress of private sector initiatives, and to consider carefully the results of the study on OTC derivatives regulation that the CFTC recently completed.

At the same time, regulatory and supervisory programs related to derivatives activities of banking institutions will be reviewed frequently as these instruments evolve and as bank's use of them develops further.

Thank you, Mr. Chairman, and I look forward to your questions.

[The prepared statement of Ms. Phillips can be found in the appendix.]

The CHAIRMAN. Well, thank you, Ms. Phillips. I deeply appreciate your statement.

Mr. Fiechter.

STATEMENT OF JONATHAN FIECHTER, ACTING DIRECTOR, OFFICE OF THRIFT SUPERVISION

Mr. FIECHTER. Thank you, Mr. Chairman, members of the committee. I appreciate the invitation to testify on behalf of OTS on the safety and soundness issues associated with the use of derivative instruments.

The topic of derivatives has generated much discussion of systemic risk, the risk that a mishap in the derivatives market could precipitate a major disruption of the financial system. Much of the concern about systemic risk appears to focus on the activities of institutions that act as dealers in the derivative markets.

None of the savings associations supervised by OTS are derivatives dealers, but a number are end users. Derivative financial products are used primarily to manage risk. The demand for these products has grown exponentially over the last two decades in response to the increased volatility of financial markets. Derivatives also can enhance the ability of financial institutions to serve the customer's needs.

For example, derivatives make it easier for lending institutions to hedge their risk and thus offer borrowers certain types of loans that might be too risky on a stand-alone basis. While financial derivatives can be very useful products for managing and controlling risk, they can, like any other financial product, be misused.

However, primary concern with derivatives is speculation. By speculation, I mean the practice of purchasing derivatives for the purpose of taking on additional risk. OTS does not believe savings and loan institutions should be engaged in speculative activities, whether with derivatives or any other financial instrument.

The world of derivatives is new and unfamiliar to many institutions. The language is arcane; the theoretical foundation that underlies financial derivatives is complex, and the techniques that are used to measure and monitor derivative exposures are very sophisticated. Derivative financial products available for use by de-

pository institutions present difficult challenges to bank and thrift regulators.

The first challenge is keeping pace with financial innovation in the derivatives market. We have made a special effort to maintain a group of capital market and interest rate risk specialists in our Washington, DC headquarters and in each of our regional offices. In addition, OTS offers its staff a number of training courses that cover derivatives and their use by savings associations.

We recognize that capital markets are dynamic and that new instruments are created on a regular basis. We, therefore, welcome the initiative of the OCC to have the six agencies represented at this table make a concerted effort to coordinate our activities and to share information on a regular basis.

The second challenge, that of risk measurement, has been a priority of OTS. We have developed and implemented a sophisticated interest rate risk model that is capable of measuring the effect of derivatives on an institution's overall risk exposure.

To address the third challenge, that of collecting sufficient information to supervise the derivative activities of savings associations, OTS staff has worked closely with industry experts to redesign the reporting form that we use to collect the necessary data. As a result, we introduced a new form in March of this year that collects extensive information on derivatives. The report filed every quarter allows us to gauge among nearly 300 different types of off balance sheet derivatives. This information must be reported by all savings associations with over $300 million in assets and all smaller institutions with risk-based capital ratios of less than 12 percent.

Finally, we wish to provide a regulatory environment that does not discourage qualified institutions from using derivative instruments to reduce risk. Because thrift institutions are inherently exposed to considerable interest rate risk, savings institutions may be harming themselves by avoiding legitimate risk-reduction tools for fear that their use will invite undue regulatory scrutiny.

On the other hand, we fully endorse a cautious approach in the use of derivatives by thrift institutions. One hundred and seventeen, or approximately 6 percent of OTS supervised thrifts, report positions in non-mortgage-related derivatives as of September 30, 1993. Of these, 82 had positions in interest rate swaps, 20 had futures contracts, and 43 had options positions. These institutions appear to be using the derivatives to reduce their risk exposure.

OTS staff conducted a sensitivity analysis of these institutions to assess the hedge value of their derivative positions, or more specifically, to determine the protection the derivatives provided against rising interest rates. The analysis showed that the economic value of the derivatives would increase if interest rates rose.

Beginning next year, thrift institutions' capital requirements will be directly related to their overall interest rate risk exposure. Thus, the effect of derivatives on an institution's interest rate risk exposure will be taken into account in determining its capital requirement.

The financial engineering that is taking place at our Nation's leading financial institutions is evolving. Futures, options, swaps, and other derivatives can be efficient and effective risk management tools. The growth of the derivatives market underscores their

usefulness. Many depository institutions have used them to reduce risk.

If used properly, I believe that derivatives have the effect of reducing risk to the Federal Deposit Insurance funds.

Mr. Chairman, that concludes my testimony and I would be happy to answer any questions.

[The prepared statement of Mr. Fiechter can be found in the appendix.]

The CHAIRMAN. Thank you very much, Mr. Fiechter, and I believe the last time we saw each other was over in P.G. County in Largo, and I want to thank you again.

Mr. Hove, good to see you.

STATEMENT OF ANDREW HOVE, ACTING DIRECTOR, FEDERAL DEPOSIT INSURANCE CORPORATION

Mr. HOVE. Thank you, Mr. Chairman and members of the committee. I am pleased to have the opportunity to present the views of the FDIC on the involvement of insured depository institutions in the market for financial derivatives. A detailed response to the individual questions posed in your letter of invitation has been submitted to the committee for the record.

The FDIC recognizes that the size, complexity, and dramatic growth of this global market demands increased regulatory scrutiny and concern. I commend the committee for focusing attention on this emerging issue.

My testimony addresses the management by depository institutions of risk posed by derivatives and the FDIC's supervision of these activities. For purposes of this testimony, my principal focus is the extent and degree of the involvement by State nonmember banks for which the FDIC is the primary regulator. However, I want to point out that derivative activities have importance to the FDIC as the insurer of financial institutions, and we, therefore, monitor derivative activities throughout the banking and thrift industries.

Phenomenal growth in the derivatives market, largely in the last 5 years, has resulted in outstanding contracts numbering in the millions and totaling trillions of dollars in notional principle. The global market for financial derivatives has provided substantial funding, liquidity, and risk management benefits to many segments of the domestic and international economy, including insured financial institutions. State nonmember banks are primarily end-users of these products, utilizing them for risk management purposes rather than to generate revenue.

The risk posed to an individual institution involved in the derivatives market can be viewed much the same as any other activity presently engaged in by financial intermediaries. That is, the principal risks—credit, market, operational and legal risk—while admittedly packaged in a more complex fashion by derivative instruments, are essentially the same as those posed by more traditional financial activities.

What makes these risks more of a concern when encountered in financial derivatives is the complex interrelationships created, the

evolving nature of the markets, and the speed with which these contracts can be accumulated in an individual institution.

The principal means for determining the degree of risk in these activities and the appropriate supervisory response continues to be the regular examination process. The FDIC has selected and continuously trains a team of examination specialists in our supervisory regions with technical guidance and support provided by our Office of Capital Markets located in Washington. These specialists provide supplemental training in the examination of derivative instruments to the field staff and derivative component in our regular Examiner Training Program.

In the examination of an institution's derivative activities, consistent risk review and control standards are applied. Examination of these activities normally includes reviews of management's background, policies, practices and performance, measurement and reporting of risks and exposures, strategic goals and objectives, credit analysis, operations, profitability and audit coverage. The more significant the degree of the institution's involvement, the more comprehensive will be the scope of the review.

The FDIC expects to see reflected in the bank's board of directors' minutes a full discussion of the costs, benefits, and especially the risks of the institution's planned or ongoing involvement in derivative activities.

Management should prepare an executive document in language suitable for the technical knowledge and awareness of the full Board, which details the exact nature of the planned involvement and the levels of risk that can be incurred, much the same as for any new business venture.

Risk parameters should be expressed in terms of most likely and worst-case scenarios with specific board and management approvals for these levels clearly enumerated.

The FDIC continues to work closely with various domestic and international regulatory agencies to develop consistent and comprehensive standards and guidelines for derivative activity. Significant work remains to be done in determining the appropriate levels of capital, accurate measurement, and adequate reporting of derivatives, their exposure for market participants. We applaud Comptroller Ludwig's interagency task force on derivatives, which will address many of these issues.

Because of the global nature of the marketplace, we continue to participate in the Basle Committee to harmonize standards and reporting requirements, which are critical to monitoring and supervision of financial derivatives activities.

In conclusion, I want to point out that the FDIC is acutely aware that financial derivatives are one of the most important and fastest growing segments of the financial services industry and that these activities warrant continued close supervisory attention and concern.

As insurers of depository institutions, we also are concerned about the impact of the failure of an institution, or even more than one institution, in systemic risk scenario from these activities. I must point out that the complexity of derivatives will always create some uncertainty as to the exposure of an individual institution or the system as a whole. The range of products and the speed

of development of new derivatives may always outpace our ability to monitor all the risks associated with their use.

As my testimony stresses, the strongest bulwark against an individual institution's failure or systemwide losses is well-informed senior management and the commitment of equity capital by the owners of the institution. We believe that the combination of sound institution management, market forces, and appropriate regulatory supervision, can help reduce the likelihood of any significant disruption in the banking industry as a result of derivative activities.

We will continue to work with the other regulatory agencies and international authorities to refine our off-site monitoring systems, to enhance on-site supervision and examination, and to harmonize capital accounting and disclosure standards.

Thank you for the opportunity to testify, and I look forward to responding to your questions.

[The prepared statement of Mr. Hove can be found in the appendix.]

The CHAIRMAN. Thank you very much, Mr. Hove. Ms. Bair.

STATEMENT OF SHEILA BAIR, ACTING CHAIRMAN, COMMODITY FUTURES TRADING COMMISSION

Ms. BAIR. Thank you, Mr. Chairman, members of the committee.

Good morning, and thank you for the opportunity to appear before you today to discuss the regulation of derivative instruments in the United States. Ideas and proposals are being discussed which could significantly affect this segment of the market for financial services. The Commodity Futures Trading Commission is pleased to have this opportunity to present its views on this important topic.

The Commission is no stranger to the market for derivative instruments. As you know, the CFTC regulates the commodity futures and options markets, the first derivative markets that were developed in the United States. These markets have been, and continue to be, one of America's most innovative and competitive industries. The United States has the oldest, most liquid, and largest futures markets in the world. Today, America's futures markets serve as models around the world for developing futures and option products, just as the CFTC's regulatory system has served as a model for regulation of those products.

For the past 130 years, futures contracts on agricultural commodities have represented the most common form of derivative instrument in this country. Futures and options on futures are now traded on a wide array of other commodities, including government bonds, foreign currencies, energy products, and precious metals.

The CFTC has been regulating futures on financial instruments since 1975. Futures contracts, if used correctly, can be employed to hedge a trader's cash market price exposure. In addition to this direct benefit to hedgers, others in the marketplace benefit from the price discovery function of futures markets.

The Commodity Exchange Act establishes, and the CFTC administers, a comprehensive regulatory framework for the trading of commodity futures and option contracts. The act requires that, absent a specific exemption, commodity futures contracts must be traded on designated exchanges, subject to Commission oversight.

Hallmarks of exchange trading include the clearing system and the open and competitive pricing of transactions. Exchange clearing provides a crucial financial safety net by enforcing the daily, or even intradaily, marking-to-market of all positions, by requiring specified levels of capitalization and by providing a guarantee against the risk of default.

Under our regulatory framework, exchanges are self-regulatory organizations responsible for policing their own markets. They are overseen by the CFTC through use of a variety of mechanisms. This includes a direct reporting system, through which the Commission receives daily information on the market positions of the largest traders. In addition, for many futures contracts, the Commission has set limits on the maximum permitted size of speculative positions. For other contracts, exchanges set and enforce speculative position limits or, alternatively, position accountability rules, subject to Commission approval. As part of its continual Market Surveillance Program, Commission staff communicates regularly with other government agencies, SRO staffs, and directly with futures traders. Ultimately, the Commission establishes the standards for exchange trade practice and financial compliance programs and reviews exchange programs to assure that they meet those standards.

In addition to exchange oversight, the Commission regulates all futures industry professionals who deal with customers, most notably Futures Commission Merchants [FCMs] who execute customer orders and handle customer funds. The minimum capital, financial reporting, and segregation of customer funds requirements applicable to FCMs form another part of the financial integrity system for futures trading. In this regard, total customer losses due to FCM insolvencies have approximated only $11 million over the past 50 years.

When banks participate in the commodity futures and options markets, they are subject to all of the regulatory requirements I have just described. Banks may participate as hedgers for asset and liability management. They may also establish an FCM unit to act as an intermediary for customers. However, the overall derivatives activities of banks, as well as other market participants, may encompass a wide variety of other types of transactions which are not subject to CFTC oversight.

In the broadest terms, "derivatives" are financial instruments that derive their value from some underlying asset, be it a physical commodity, a currency, or an interest rate. Derivatives can include commodity futures, options on futures, options on securities, or security indices, forward contracts, or swaps.

No single regulatory framework governs the many different types of derivative transactions. Nor does a single system govern those who engage in these transactions either as end-users or intermediaries. Many of the parties to derivative transactions may have multiple regulatory overseers. Others, however, may have no Federal oversight of their activities, at least with regard to certain types of over-the-counter derivative products. For these reasons and in light of the extraordinary growth of the OTC derivatives markets, lawmakers and regulators in the United States and abroad

have focused on the legal and regulatory issues presented by these markets.

In this regard, the Conference Committee that considered the Futures Trading Practices Act of 1992 directed the CFTC to conduct a study of OTC derivative products and to report the results of its study to Congress. Among other issues, the report was to address the size, scope, activities, and potential risks presented by the markets for swaps and other off-exchange derivative financial products and the need for additional regulatory controls for these products.

The CFTC released its report this week, after a year-long study. As explained in greater detail in my written testimony, the report provides an overview of today's marketplace for derivative products and their attendant risks. It also describes the regulatory controls and risk management practices currently in effect for these products in the United States.

Among other things, the report found the following: First, that although comprehensive, standardized information about OTC derivative products and those who use them is currently lacking, available data was adequate to draw some basic conclusions. For example, the market for swaps appears to be almost entirely intermediated by institutions that act as dealers. Of U.S. swap dealers, commercial bank positions were three to five times larger than those of nonbanks or U.S. units of foreign dealers.

Second, that although the OTC derivative markets have grown rapidly by any measure, the widespread use of notional principal in "sizing" the OTC derivatives market may significantly overstate actual total risk exposure.

Third, that at this time existing regulatory structures appear adequate to address issues raised by the growth in OTC derivatives markets, and that individually regulators, including the SEC and bank regulators, as well as CFTC, have been moving ahead to address many of the issues raised by trading in OTC derivatives. These activities include development of new mechanisms for obtaining information concerning the potential risks to regulated firms or affiliated entities participating in OTC derivative markets, as well as review of capital requirements applicable to OTC derivative transactions and other institutions.

Fourth, that benefits could be reaped, however, from greater communication and coordination among regulators to consider common regulatory issues to supplement these ongoing individual efforts.

Thus the report's central conclusion is that while no fundamental changes in regulatory structure appear to be needed at this time to address issues presented by the growing use of OTC derivatives, greater coordination among Federal financial regulators would help to assure that Federal oversight remains adequate. Finding that the "systemic and public policy issues suggested by these products are not confined to any single market or the province of any one regulator," the CFTC recommends the establishment of an interagency council to consider common approaches to such issues as market information access, transparency, internal management controls, the development clearing facilities for OTC derivatives and the presence of dealers in OTC derivative markets that are not otherwise subject to Federal regulatory oversight.

Mr. Chairman, this concludes my statement. Once again I would like to thank you for the opportunity to have the Commission's views considered by this committee. We at the CFTC look forward to working with you and our colleagues at the other financial regulatory agencies appearing with me this morning, and I will be happy to answer your questions.

Thank you.

[The prepared statement of Ms. Bair can be found in the appendix.]

The CHAIRMAN. Well, thank you, Ms. Bair.

Mr. Beese.

STATEMENT OF J. CARTER BEESE, COMMISSIONER, U.S. SECURITIES AND EXCHANGE COMMISSION

Mr. BEESE. Mr. Chairman, members of the committee, I am pleased to appear today to testify on behalf of the Securities and Exchange Commission regarding the regulation of derivatives activities. During recent years, we have witnessed a virtual explosion in the types of financial products being brought to market in this country, including growing activity involving over-the-counter derivatives. The growth of this market has presented a significant new challenge for regulators, one which the Commission has met head-on and continues to meet by combining vigorous oversight of our financial markets with the flexibility that allows new products to develop in response to investor needs.

The rapid growth of the OTC market in derivative products has raised concerns in many quarters regarding the adequacy of regulation of these financial devices, and the possible effects of this burgeoning market on the stability of the world's financial markets. While these concerns are understandable, it is the view of the Securities and Exchange Commission that the risks posed by these new and innovative securities derivative products can be addressed by the existing securities regulatory system.

As a practical matter, the derivative products assuming a larger role in today's OTC market are similar in many respects to the more traditional exchange-traded futures and options, except that they add a key element of credit risk not present in standardized exchange-traded products. While the Commission shares concerns about the risks associated with the explosion in trading of OTC derivatives, these concerns are tempered somewhat by the Commission's extensive experience in regulating new and innovative financial products.

As a regulator, one of the first questions we must ask when a new product comes to market is: Why is this instrument so popular among financial end-users. In the case of OTC derivatives, the answer is the products' flexibility. OTC derivatives can be structured to match the portfolio or the investment strategy of a particular purchaser of a derivative contract. As a result, these products offer institutions the ability to manage risks that might otherwise make certain investments or economic activities impracticable. In addition, OTC derivatives allow institutions to "synthetically" gain exposure to equity, bond, or mortgage markets around the world that otherwise might not be available.

Knowing that derivatives have become an important risk management tool for many end-users, the question then becomes: Are the proper regulatory safeguards in place to ensure the integrity of the market and to protect investors? Put another way: During periods of market stress, what concerns do regulators have and are the tools available to address these concerns?

From a regulatory perspective, the types of concerns that arise in a market stress environment include the possibility of a "ripple effect" and the impact of derivatives activities on the liquidity of the cash market. Under a potential ripple effect, the increased use of derivatives could lead to the failure of one or more derivatives dealers with this failure creating ripple effects throughout the OTC derivatives market for broker-dealers and other market participants. Similarly, in an extreme market stress environment, the liquidity of the Nation's equity markets could be strained by the selloff of stocks and futures by derivatives dealers trying to adjust their hedges to accommodate rapidly changing market risks.

In addition, the SEC has three areas of concern that apply to all markets, including derivatives markets. These are full disclosure, customer suitability, and antifraud protection. To address these concerns, there are four general themes to SEC regulatory oversight of derivatives activity.

The first is risk assessment. In order to properly regulate this market, we must first know its size and scope. Accordingly, last year the Commission adopted a risk assessment program which requires securities firms to report on a quarterly basis the size of their derivatives exposure in terms of both notional amount and replacement cost value. The Commission staff is presently analyzing quarterly filings received from approximately 250 firms with over 700 significant affiliates.

The second theme of SEC oversight is capital. Strong capital requirements serve as an essential regulatory tool in protecting customers and mitigating systemic problems. In May of this year, the SEC asked for public comment on a broad range of issues relating to the appropriate capital treatment of derivative products under the Commission's net capital rule. Our goal in this review is to strike the appropriate balance between safety and the efficient use of capital.

Our third theme is accounting. It is axiomatic that good accounting is the underpinning of good risk management and good regulatory oversight. To the extent that settlement values under derivatives contracts are largely contingent, which is often the case throughout the life of a derivative contract, current accounting standards do not require settlement values to be reflected in the firms' balance sheets.

We must encourage international efforts to harmonize accounting treatment of off-balance sheet items. An important step in this direction is the recent issuance by the Financial Accounting Standards Board of accounting standards governing the disclosure of information about the nature, extent, and terms of financial instruments with off-balance sheet credit or market exposure. Public companies that have material exposures as a result of current or contemplated transactions in derivatives are also required under SEC rules to discuss the commitments and uncertainties that may

have a material effect on liquidity or operating results in the future. The FASB is also studying ways to address the accounting treatment of swaps and other derivative products as part of its comprehensive review of new financial instruments. While these efforts are currently underway, the Commission recognizes that more needs to be done in the area of accounting standards and the FASB is working on the issue.

The final theme is coordination. A cooperative dialog and information-sharing among regulators are essential to understanding the aggregate size of the market and properly identifying potential systemic stress points. Accordingly, Chairman Levitt meets regularly with the heads of the CFTC, the Federal Reserve Board, and the Under Secretary of the Treasury for Domestic Finance, to discuss a broad range of structural and policy issues, including developments in and various risks posed by, the derivatives market. In addition, daily contact exist at all levels among staff of the various Federal regulators.

While in no way minimizing the risks associated with derivative products, the structure of regulation that has developed under the Federal securities law is well-suited to dealing with these risks. The SEC currently has the tools at its disposal to address the concerns raised by the growth of this market and is vigorously using these tools. The Commission believes that the optimal approach to the regulation of OTC derivatives is to maintain stable markets and to protect investors, while allowing market participants the freedom to meet customer needs with new and innovative financial products.

Thank you, Mr. Chairman. I will be happy to answer any questions the committee may have.

[The prepared statement of Mr. Beese can be found in the appendix.]

The CHAIRMAN. Thank you, Mr. Beese.

Let me thank you for accepting our invitation. Notwithstanding some opinions to the contrary, the chairman of the Energy and Commerce Committee, Mr. Dingell, who also has expressed, and I would say particularly the SEC jurisdiction, his concern. We have repressed it on the basis of the compromise bill that we passed out last year, a GAO study. Now, that won't be completed until the end of this year.

So our interest in inviting you was not to try to immerse ourselves in the purely—or the pure—SEC jurisdiction on securities, but insofar as the bank association or participation with those transactions that you do monitor in your other capacity. I wanted to make that clear.

I have so many questions and I know we won't have time, so I am going to ask for myself and every other member the privilege of submitting questions in writing to the members of the panel, and if they are sent to you promptly, that is, by the time you receive a copy of the transcript of the proceedings, we would be grateful for your response.

Overall, let me say that my interest generally goes back to the very beginning of my service after my assignment to this committee 32 years ago when I was elected to the House. The first issue that came up—of course, I was a lowly member at the time when

the committee consisted of—I made number 31. And Chairman Patman of whom you have heard, had not become chairman. The chairman was a very famous gentleman who actually had the biggest hand in the writing of the legislation of the 1930's having to do with the FSLIC and Home Loan Bank Board and everything else. It was a gentleman from Kentucky, Mr. Spence, but he was about 90 years old at the time; he was on the verge of retiring, and—well, frankly, he was really incapacitated.

That first session we had two meetings of the committee to indicate the difference in atmosphere. In those days everybody was happy and there was unending prosperity. But we had the Secretary of the Treasury, Mr. Dillon, come before us, and say that it was necessary to repeal the silver transactions tax. Well, I had some familiarity with the history of that tax, because I worked during the war, from the first day of the war with what turned out to be the cable and radio censorship with both military, Army and Naval intelligence, and as a result, very interesting things came to our attention that I never dreamed years later we would be associating when we talk about money laundering.

Well, that was a favorite pastime of some prestigious individuals, including the deposed British king who was sent to the Bahamas, and together with an agent that we had on the list from Germany and Switzerland who dealt in the properties and monies derived from the conquered countries by the Nazis.

And they set up a bank in Mexico, incidentally, where they laundered a considerable amount of money to get around the American and the British laws. So that when Mr. Dillon asked for the repeal, he spoke in terms of the fact that it was wartime; there was no reason now to give up.

At that time we weren't afforded the opportunity to ask questions, but I brought up one, but Mr. Patman was nice enough, because Mr. Spence, they had to wheel him in. He couldn't see and he couldn't hear. So Mr. Patman was actually conducting.

So he was surprised when I interrupted, and I said, well, Mr. Secretary, the reason for that tax was speculation during war. But since the war, the condition has continued to exist.

I think the most unnoted thing in our country is that since particularly 1950, we went into a mode of war. We call it defense, and, of course, as an amateur I could see the relationship between the economy and everything else.

So he said, well, actually, the tremendous incremental use of silver in the industrial world necessitates we do this.

And I said, well, but what about the Treasury's holdings? Because at that time we had monetization over the currency. That is, the nickel, the quarter, and the dime had silver content.

And he said, Oh, no problem.

So I had read some statistics and I blurted out and said, well, it looks to me like it will be—because you are going to create a speculative market, which, of course, today we take for granted—futures.

So the end result was that exactly to the month the same Secretary came before us and asked that we demonetize because we didn't have the supply at available cost of either the silver or the gold for the continued monetization or the currency content.

So I have seen these things and I have seen how in later years it wasn't even our committee, it was Government Ops, that had to look into the Hunt brothers' unsuccessful attempt to corner the silver market, through the use of banking resources, and credit to the tune of over $25 billion. And this committee couldn't get a handle on it for a lot of reasons, but Government Operations did. And as a result, we ended up with the Lader Act.

Now, one question I would like to ask—and I am going to ask that we keep time here because I notice that we are not. And I will ask for a response in writing, because I know that I have reached the 5 minutes. The traditional style of our regulatory system, and I am particularly referring to the banking regulators, has a few time constraints.

If a problem arises from a concentration in a loan portfolio or asset liability mismatches, those things seldom arise overnight, any more than these other things that are referred to in a very general sense. They are working, and the time lapse there, before oversight catches up, is of such a magnitude that one, how do you plan to adjust the examination process to respond to the unique aspect of bank derivative activities?

Two, are banks required to report daily, weekly, or monthly data on the value of risk exposure of derivative products?

And three, if not, would your agency know if a dealer bank's derivative portfolio is in trouble?

I will just throw that out.

I will recognize Mrs. Roukema.

Mrs. ROUKEMA. Thank you, Mr. Chairman.

Mr. Chairman, I don't have the long reach of historical background that you have, but I do have——

The CHAIRMAN. All right. You are being diplomatic. You are saying you are not as old as I am.

Mrs. ROUKEMA. No. I am trying to say I am younger than I really am. That is what I am trying to say. But I really want to get on to the historical background that I do have, because as I am sitting here I am saying Oh, my God, I hope this isn't deja vu all over again, to quote Yogi Berra from my State. And by that I mean I have a historical perspective here, having sat on this committee in the early 1980's, when as you will remember, Mr. Chairman, and certainly our colleague, Mr. Neal, will remember, and perhaps some others, that we sat through many hearings, congressional hearings where the regulators regularly testified about the low risk, if properly used, that we were exposing our thrift industry to, and they assured us on many different occasions that everything was in place for a thorough review and proper management control. And if we would only deregulate the industry, they would be in a good position to monitor properly to protect the taxpayer and protect the depositors, and we all know what happened. We are still paying for the S&L debacle.

Well, I have that same strange feeling as I sit here this morning, not that I believe that any of the regulators here are insincere in their intentions. In fact, Mr. Ludwig, to his credit, has already set up from the news reports and from his own report here some new guidelines, and I don't know whether they are sterner than just guidelines or more precise than just guidelines, or what the rule of

law you have behind your authority here. I am not sure about that, in this particular case.

So my question goes to everybody. I guess it is a twofold question, follows up on your statement about how soon, what is the time line and how are you going to actually effect this regulation and oversight. But it is more specific than that.

I haven't heard anyone suggest that maybe you need new authority and we should give you statutory authority to do some things with respect to the references that you have made: Capital standards; the accounting questions that have been raised; certainly the risk management. I would like to hear from you what statutory authority you would like Congress to give you, or are you going to sit here and tell me that, no, everything is just fine, you can do the job on your own?

Mr. Ludwig.

Mr. LUDWIG. Thank you, Congresswoman Roukema. The OCC has taken a first step in terms of the banking circular. It is in contrast to deregulation; we are increasing regulation. And everyone on this committee—and I think it is commendable that you are holding this hearing—has a right to be concerned about a market that is growing in size and that involves new types of instruments. But we do have quite broad authority to regulate national banks, and we can enforce our rules with the full panoply of enforcement actions. I don't believe at this time we need additional statutory authority.

Mrs. ROUKEMA. Do we need, for example, higher capital standards to guard against the risk management that you are talking about?

Mr. LUDWIG. Capital standards are applicable explicitly to derivatives as a result of the Basle Accord. The Basle group is looking into additional capital changes with respect to derivatives, and we are participating in that effort. The concern you raise is certainly a very relevant one. But it is being addressed and, at this point, I don't think we need additional authority to do so.

Mrs. ROUKEMA. Does—yes, Mr. Fiechter?

Mr. FIECHTER. I would echo Comptroller Ludwig's comments that explicitly FDICIA does require that all of us take into account this new interest rate risk and setting our interest rate capital requirement. We are all moving to put that provision into effect.

We, as I mentioned in my oral statement, do have an interest rate risk model out there that does collect information on derivatives, and it is our intent at the beginning of next year to explicitly have our capital requirements reflect the derivative activity of the institutions.

Mrs. ROUKEMA. Thank you.

Yes, Ms. Phillips.

Ms. PHILLIPS. I would add, with respect to the capital requirements, the FDIC Improvement Act did, in fact, give us significantly broader authority with respect to strengthening capital requirements. For example, if——

Mrs. ROUKEMA. Are you exercising it to the maximum?

Ms. PHILLIPS. I believe so. Those rules are being developed on an interagency basis and are in fact in process.

With respect to safety and soundness of banks, we do have the authority now in fact to write rules that would affect the safety and soundness with respect to derivatives. So I think that that authority does exist at this time.

Mrs. ROUKEMA. Thank you.

Mr. Beese.

Mr. BEESE. I would note the authority that the Congress granted the SEC under the Market Reform Act of 1990, which is the basis for the Risk Assessment Program which I described in my opening statement. That Risk Assessment Program is under way now, has been under way for a year, and it has given the Commission significant new ability to take a look at the derivatives activities of both holding companies and unregulated affiliates of securities firms. It also has given us significant new ability to try to comprehend the scope and size of this market.

Mrs. ROUKEMA. Ms. Bair.

Ms. BAIR. I just wanted to say, in terms of the CFTC's own study, we entered into a very comprehensive look at the regulatory regimes of each of the individual regulators who have pieces of this market.

Also, our size and scope analysis indicated that the overwhelming majority of both dealers and end-users in these markets are regulated institutions. You need to differentiate that from whether the markets themselves are regulated. But in terms of the participants in the markets, most of them are already regulated.

We have concluded, as have other regulators, that no additional statutory authorities are needed at this time. The current regulatory structure is flexible enough, we think, to deal with these issues. However, in recommending the Interagency National Council [INC], we indicated that we think disclosure and reporting requirements—information access—is a very basic, fundamental problem in terms of actually evaluating what the true risk exposures of the various institutions are. That is one of the primary things that the INC should look at.

In terms of the presence of entities in these markets that are otherwise unregulated, we also list that as an agenda item. We think the regulators should get together and look at them and maybe after that happens, that there would be a recommendation for additional legislation.

Mrs. ROUKEMA. Mr. Chairman, this is an interesting response and it is somewhat helpful and somewhat hopeful, but I would add to your request, your request for a written report, that we then ask, with some specificity, how each of these agencies is going to immediately adjust their regulatory actions to meet the standards which they claim in the law they already have as it directly applies to derivatives, and I think we should, in our oversight capacity, have a report in the near future, if not at a time certain.

The CHAIRMAN. The gentlelady will draft her addendum. We will submit them together.

Mrs. ROUKEMA. Thank you.

Thank you, Mr. Chairman.

The CHAIRMAN. Let me just say, if you will yield to me, we are dealing here with what I think exceeds the capacity of any one sovereign nation. We have in a nanosecond tremendous movements

worldwide. I mean, right this minute, billions, hundreds of billions. And so sooner or later it is going to take the leadership of some sovereign nation to get a concert of nations to see how they can regulate this worldwide. But that I will leave for better minds than mine.

What I will also add is that we—that is, I and the staff—are very much impressed with Mr. Fiechter's very competent and successful implementation of the act we passed with respect to the OTC oversight. And we are very pleased. We want to compliment you.

Mr. Neal.

Mr. NEAL. Thank you, sir.

Several of you have focused on how regulators incorporate risks associated with derivatives into the assessments of risk-based capital. One of you, you especially, Ms. Phillips, focused on this. And I am wondering how you—and Mr. Fiechter also talked about developing an economic model for this.

This is really what I am wondering about, how you go about determining the proper levels of capital. How do you assess the risk to apply your risk-based capital standards, and the timing of such assessments.

I mean, if you assess risk—it seems to me that these markets change so rapidly, that even if you try to assess risk over a monthly period or something similar, you could get daily changes that would throw that out of whack, or maybe if you did it yearly you would certainly often be out of date with your estimates of capital needed.

So I guess anyway, that is the kind of question I am trying to get at, whether we have a good handle on that. Do we really know how to assess the risk, and then, follow that up with adequate capital requirements?

Ms. Phillips.

Ms. PHILLIPS. Surely. With respect to, for example, interest rate risk, and we are in the process of finalizing that proposal, and that was part of FDICIA. Now, the existing risk-based capital standards mainly concentrate on credit risk, but we are making adjustments to the rules to take into account, for example, interest rate risk. I might mention that that is an interagency effort.

Mr. NEAL. May I ask you, is that also a part of the Basle accords?

Ms. PHILLIPS. They have put out new proposals for comment—we published in this country their report. In addition, there is a discussion paper on interest rate risk that is a little bit different than the approach we are taking domestically, but we believe that they will in fact be compatible. We may ultimately have to make some adjustment. But there are efforts being made for them to be compatible. And bearing in mind that not all banking institutions utilize these instruments, we are trying to balance the regulatory burden against the need to make the appropriate adjustments.

There will be sort of a minimum screen for banks over a certain amount that utilize derivatives. Above a certain amount of risk assumed, banks will have to make adjustments to capital. They can utilize their internal mechanisms, if they are approved by the bank examiners, and that would be done on a case-by-case basis looking at the particular systems, and those would be measured against our own internal models and systems.

There would also be a standardized approach which each bank would have the opportunity to utilize. Basically, it takes all of the instruments, slots them into various time periods. Then there would be risk factors assessed against those, and capital would be calculated from that. It is a complicated process. But these are complicated instruments. Does that respond?

Mr. NEAL. I think so. You did say that you use the bank's own internal analyses of risk, but do you have a way of measuring that against some objective standard also?

Ms. PHILLIPS. When the proposal was first put out for comment, a number of the commenters suggested that our proposed system was too simple, that in fact we didn't take into account the sophisticated techniques they had in place. So what we now have out in fact for final comment is to allow the banks to utilize their internal systems if they are approved by the bank examiners.

To the extent they don't have such systems, then they would utilize the standardized system that is contained in the rule.

Mr. NEAL. Mr. Fiechter.

Mr. FIECHTER. In some respects I would prefer to respond for the record, because it might take us a couple of days to describe our system. I am also a little reluctant——

Mr. NEAL. Well, would you do that, please? I am trying to understand this, and I must tell you I am having a little difficulty with it myself.

Mr. FIECHTER. With Congressman Bacchus here, I am also concerned because the reports that thrifts have to file are longer than our call report, in essence, and we have received, with some justification, an awful lot of concern from thrifts over the paperwork burden associated with the approach that we have taken, and we have tried to limit it by exempting some institutions. But we would be happy to explain our process in some detail to you.

Mr. NEAL. I would appreciate that. I don't know whether you want a brief summary of it. Mr. Chairman, I see the light is on.

Mr. FIECHTER. I can give a brief summary, if you like.

The CHAIRMAN. In his report, in his written statement, it is pretty good. But you can respond in writing, if that is all right.

Mr. NEAL. Oh, sure.

[The information referred to can be found in the appendix.]

The CHAIRMAN. All right.

Mr. FIECHTER. Do you want me to give a brief 2 seconds?

Mr. NEAL. Well, I see my red light is on. It is up to you.

The CHAIRMAN. It is all right.

Mr. FIECHTER. In a nutshell, what we have required really since the beginning of 1990 is our thrifts have to report to us every 3 months a whole range of information on the various instruments they hold. What we do is we at OTS have a computer model that we spent years developing, we worked with Wall Street, and so forth, and in a nutshell, we test that model, test the balance sheet of the thrift against various changes in interest rates—looking at the whole portfolio, not individual instruments—and review what the capital position of the institution is after various shocks from interest rate changes, what the effect will be on the institution.

We require the board of directors every 3 months to meet and review what the thrift management has earlier predicted would be

the effect on the institution from a rate change. Every 3 months the Board sits down and says, you said that if rates went up, this is what would happen to our net worth. What, in fact, has happened?

A consequence of this effort on the part of the directors, the fact that we have sensitized them, is that a lot of thrifts have moved out of what we all would consider higher risk derivatives. The charts are pretty impressive with the thrifts moving out of the IOs and the POs and into much lower risk instruments.

We have actually had some concern that we have perhaps pushed too much interest rate risk out of the industry, that part of the value added is taking rate risk, but that we have so sent such a chill through these institutions, that they may have gone the other way too far, you know, from not making fixed rate mortgages at all anymore, selling every fixed rate loan they make to avoid any type of interest rate risk. And that is not our objective either.

But again, we have got summaries, we have 300-page descriptions of our model, and we will give your staff anything in any degree that you would like.

Mr. NEAL. Thank you.

The CHAIRMAN. Thank you.

Mr. Leach.

Mr. LEACH. I will pass for now.

The CHAIRMAN. Mr. McCandless.

Mr. MCCANDLESS. Am I on, Mr. Chairman? I am going to try a system here to beat the lights. I am going to ask two questions and then the answers will have to be given. Therefore, if we run over the 5 minutes, it won't be—how does that sound, pretty good?

All right. My first question would be to Chairman Bair. Relative to an article that appeared in the *Wall Street Journal* yesterday, the headline of which was "CFTC Ducks the Issue on How to Regulate Derivatives," and if I were to paraphrase this, it goes something like this. U.S. regulators have been frustrated by the fact that these instruments fall in nobody's clear jurisdiction, but they combine traditional assets in complex new ways.

Are you in sync with, would you like to expand on that a little bit?

The second question is to Mr. Fiechter. In your statement to the committee, you referred to an Indiana case last year, *Brane* vs. *Roth*, in which a grain elevator operator that did not hedge could be held liable for losses it sustained.

My question to you after Ms. Bair answers hers, is that the tip of the iceberg, or is this some isolated case?

Ms. Bair.

Ms. BAIR. Thank you, Congressman.

I appreciate the opportunity to respond to that headline, because I was somewhat distressed by it. No, I don't think the CFTC dodged the issues at all. Our staff took a very exhaustive look at the current data that is available. We had to go to a number of different sources for the data on the size of these markets.

You have to rely on the industry for a lot of the data. It is not kept in uniform locations. It was a Herculean task just to put it together and try to make some sense out of it.

We looked at all the defaults that have occurred, the limited experiences that we have had with regard to defaults of swap market

participants, we did detailed analyses of those. We took a comprehensive look at the current regulatory structures. There are shortcomings in the data that is available, but based on what we do have and were able to analyze, we simply cannot say that there have been significant problems in these markets that have had any kind of systemic ramifications that would justify expanded statutory changes at this time.

That may not be a very glamorous conclusion, but it took a lot of staff work to go over the available data, and we have generated over 400 single-spaced pages of staff working papers in addition to our report. I appreciate the opportunity to defend our position, because I think the staff did an excellent job, and that is just the best we can do at this point based on available data.

We have made an effort to try to articulate what we think the more valid issues are, and again, calling for greater interagency coordination. Because of the various different interests of each of the various regulators, we think structured interagency coordination is imperative.

Mr. MCCANDLESS. Thank you.

Mr. Fiechter.

Mr. FIECHTER. Congressman, I hope that that was an anecdotal instance. As I was answering Chairman Neal's question, the objective of including that was merely to point out that occasionally, institutions that do not hedge through the use of various more sophisticated techniques take on more risk than institutions that stay away from various derivative instruments and through more traditional activities take on interest rate risk.

There are times when in a sense not to speculate is riskier than speculating. If you have an institution that has a lot of short-term deposits and takes on fixed-rate mortgages, that is a very risky instrument—or institution. If that institution does not hedge, we should come down on that institution.

I think that is what happened with this grain operator that bought futures or whatever, did not properly hedge, and ended up losing a lot of money.

Mr. MCCANDLESS. Thank you.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Mr. McCandless.

Mr. Kennedy.

Mr. KENNEDY. Thank you, Mr. Chairman.

Mr. Chairman, first of all, I want to thank you very much for holding this, what I think is a very important hearing today. I think it is sort of a reconfirmation of the leadership that you have shown on this committee to concern yourself about what ultimately can be consumer risk, and just the taxpayer risk of the financial instruments that have been developed by our country over the course of the last dozen or more years.

I think the basic concern is that this is simply another sort of Wall Street developed house of cards, that what we have here is not a way to actually enhance the wealth of the country or the wealth of the world, that this perhaps offers, as is not really brought out so far, some capability of providing more stability to certain institutions, and in that sense, I don't think anybody would have a quarrel with what is being done.

I, before I came to Congress, started a company that sold a great deal on the futures markets. And the trouble is that you get people that feel that they know and understand where the markets are going, and as Ms. Bair just nodded, the traders basically feel that they know a hell of a lot more than any regulator, and really, any guy that owns the company, as I can guarantee you.

And the problem with that is, that you get into a situation where they begin to believe that they know where the markets are going. They are very aggressive because they are getting paid huge amounts of money in many cases for this tremendous amount of hard work and knowledge and everything else that they put into their jobs.

But I also remember just a few years ago when the stock market took a tremendous crash and the Fed, as I think Ms. Phillips, had to actually go in and—I am not sure it was the Fed, but I think it was the Fed had to go in and help out one or two organizations that were backing up some of the exchanges, and did so without ever having sort of received congressional authority to do so.

It just seems to me that it wouldn't be that difficult for the regulators not to wait for the Basle accords to come to grips with it, but to just put certain parameters around the size of risk that anyone that deals in derivatives is allowed to take with the knowledge that ultimately it can be the country's economy or the taxpayer that is on the hook. And in that regard, I just don't see this as being that difficult a task.

It seems to me that this is probably reminiscent of the kind of crisis that took place in the late 1970's when there was this interest rate risk that many savings and loans were going through that came in and said they needed some extra powers. It looked like they were going to make a lot more money. Everybody seemed very confident. I can imagine the same answers being given by the regulators that came in before this committee saying, Look, this thing looks pretty good, it is a way for them to make some more money, there are other people out there in the society that are doing it, why don't we let them go ahead and go at it.

All I am saying, shouldn't we learn something by the fact that we have made out a half a trillion dollars to those mistakes in the past and we cannot allow these speculators to continue the sort of stability aspects of their trading, and at the same time be able to prevent them from taking undue risk with a fairly simple rule about the amount of capital they can put at risk.

Now, they are not going to ever be able to tell you exactly how much capital they have at risk, despite whatever they are going to tell you, but they—you can sort of create a foundation. You can create a bottom line. And that is what I would suggest heartily that you do.

Mr. Beese, could you just respond to that, please?

Mr. BEESE. Yes, Mr. Kennedy. I commend you on your comments. It leads me right into exactly what the SEC has been doing over the last year.

We put in place a Risk Assessment Program a year ago; we have received two quarters of data now. For the first time we are able to take a look at the full scope of the derivatives activities of these

firms and our staff is directed to report back next year as to what that risk assessment will show.

Mr. KENNEDY. You understand that about half these derivatives are sold not on the open market and you feel like you can get a handle on those transactions as well.

Mr. BEESE. Both in the holding company and in the unregistered affiliates. The Risk Assessment Program allows us to get a scope of the total exposure of these firms, including the over-the-counter market.

We also have solicited comment on a net capital concept release that is doing what you suggested, frankly.

Mr. KENNEDY. OK. Mr. Ludwig and Ms. Phillips, Mr. Fiechter and Mr. Hove, are you feeling that your agencies are conducting similar safeguards to what Mr. Beese just described?

Ms. PHILLIPS. I believe the capital requirements do assess the risk exposure of banks that we supervise.

Mr. KENNEDY. OK. So, Ms. Phillips, you are fully prepared to have whatever takes place in these markets, go back to what you just said, your statement that this risk is already being taken into account, no matter what occurs in these markets for the next 10 years. So if something should occur that is not particularly helpful, you are going to feel that what your agency is already taking into account will prevent the kinds of undue losses or effects on the economy that have occurred in times past?

Ms. PHILLIPS. I am not sure that one can ever be fully assured that we have a fail-safe kind of environment. Banking does entail some risk-taking. I don't think there is any doubt about that.

I think what we have learned from past experience looking at the volatility in various markets so that our models can take this into account. But certainly I can't give you assurance that nothing is ever going to happen that would result in exposure. In fact, I think in my testimony I tried to say that we are on an ongoing basis trying to assess whether or not derivatives have——

Mr. KENNEDY. Are you collecting data the same way Mr. Beese is?

Ms. PHILLIPS. Yes, through the examination process.

Mr. KENNEDY. And how many banks are you examining this year out of how many?

Ms. PHILLIPS. Excuse me?

Mr. KENNEDY. How many are you examining out of how many?

Ms. PHILLIPS. We examine bank holding companies and State member banks.

Mr. KENNEDY. Yes. I just asked a fairly simple question. How many banks examinations are you going to be conducting out of how many total banks that you are required to examine?

Ms. PHILLIPS. About—staff is reminding me, about 900.

Mr. KENNEDY. Out of?

Ms. PHILLIPS. Out of the total number of banking institutions?

Mr. KENNEDY. Yes.

Ms. PHILLIPS. OK. I think out of about 16,000? Ten thousand, excuse me.

Mr. KENNEDY. So 900 out of 10,000.

Ms. PHILLIPS. Those we examine are only State member banks.

Mr. KENNEDY. Yes. And you are going to assure this committee that you are on top of the situation?

Ms. PHILLIPS. I believe through the examination process we are. I might say that some of those banks are not the most active in the derivatives markets, though.

Mr. KENNEDY. Well, if that is supposed to provide us with more assurance, Ms. Phillips, I don't think it does.

But in any event, I asked the question to simply point out that I am not certain that you really are on top of what the risk is. I don't know that you are not; I just don't know that you are.

Mr. Ludwig.

Mr. LUDWIG. Congressman Kennedy, you and the other members of the committee certainly have a right to be concerned with this growing market. Our first step with Banking Circular 277, which we issued yesterday, is an attempt to assure ourselves that these institutions are taking each of the risks that are inherent in derivatives into consideration, and that they are setting limits as to each of those risks.

In terms of our examination situation, there are only about 700 banking institutions in this country out of 12,000 that are involved in the derivatives markets. And the largest 10 account for probably 90 percent of the activity. In the case of those national banks that are actively involved, we have resident full-time bank examiners who are well aware of derivatives.

That is not to say that we are totally comfortable or that we are going to be sitting still; we will be doing more constantly in this area. That is why when I took this job, one of my three senior hires was an expert in derivatives. It is an area which you have to be on top of; and it is constantly changing, and we have to change with it.

Mr. KENNEDY. Thank you.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Mr. Kennedy.

Mr. Leach.

Mr. LEACH. Thank you, Mr. Chairman.

First, a followup question to the issue that Mr. McCandless raised and the AIG issue. One of the real questions is, who is in charge of regulating this particular insurance company, and should we be thinking in terms of regulation less by type of institution than by type of activity?

One has a sense that AIG was operating somewhat on its own, perhaps successfully, perhaps unsuccessfully. I don't know. Have you at the Fed or the Treasury, or for that matter the SEC or CFTC thought in those terms?

Mr. LUDWIG. Would you like me to respond?

Mr. LEACH. Yes, Mr. Ludwig.

Mr. LUDWIG. There is an advantage to regulating by type of institution. That is that we have resident examiners on-site in the largest banks who are continuously conducting examinations, including looking at derivative activities, which are integrated into various departments of the bank. As to the coordination that CFTC Chairwoman Bair suggested, we are totally on board. I think there has to be constant coordination.

Mr. LEACH. Who would be—I mean, let's say a major insurance company gets active in the derivative markets. Who is going to regulate it, of this panel? Is anyone raising their hand to say I am?

Ms. PHILLIPS. State insurance commissioners.

Mr. LEACH. This raises a very interesting question, and that is if the State insurance commissioners are in charge, is there anyone in this room who thinks they have the adequate capacity to do it?

And if no one raises their hand, does that imply that maybe Congress ought to address that issue? I personally suspect it might.

Here I would only stress in terms of types of companies that get involved, if we go to the CFTC experience, it is my understanding that in terms of use of futures markets, a very, very high percentage of speculators or what you describe as speculators, are losers. People who most usefully use the futures market in a speculative sense are those people that are largely hedgers and somewhat speculators, or are entirely hedgers.

The only reason I raise this perspective is that if you don't have some regulation by type of instrument as well as by type of institution, the problem of the new kids on the block is one that I think is very high. That is, I personally think that some of the best constraints are coming from the private sector, because they recognize some of the risks, but that by definition, given the sums of money involved, you are going to have a lot of new kids on the block that are going to be of a somewhat less prudential nature.

And so I think there is a duty to look at this issue more from that perspective. I personally would think that over time, all of you ought to be advising us and we ought to be thinking through how we proceed in regulation.

Anyway, let me just go on in one other way. The Group of Thirty has come out with their study, which I think is constructive and helpful but avoided some critical issues like capital requirements. I am not convinced that anyone has a very good handle on how much capital should be set aside for these risks and how much doesn't need to be. But I think that that is something that the regulators are going to have to be looking at directly.

One aspect of the Group of Thirty recommendations that I think is very profound is that top management has to be held accountable and has to be involved where derivatives are concerned. One of the powers of the Federal banking regulators is removal of top management, and one of the things that I would personally like to see coming from the banking regulators is clear notification to financial institutions that if major hits occur on bank capital that have implications for the insurance fund, that bank management will immediately be held accountable.

The reason I raise this is that in the trading function which I think Mr. Kennedy described rather well, traders have an instinct of both self-confidence and personal vested interest. On the upside they get percentage salary increases. In fact, I am told that at the Bank of America, the chairman is the ninth highest paid figure at the bank. Eight traders exceed him. But if the bank loses, the trader doesn't personally lose.

So it is always up to management to restrain and constrain the actions of traders, with the great incentive being management losing its job. That ought to be signaled, not only from a stockhold-

er perspective, but from a regulator perspective, and that is the power currently in law. But I think it has never been tied to banks' involvement in speculative activities.

So I hope regulators send that kind of signal. I don't know if you agree with that. Is there a difference of opinion in that regard?

Mr. LUDWIG. No. In our new banking circular, we in fact require that senior management be fully informed, inform itself, and be responsible. But you have taken it maybe a step further. I understand where you are going.

Mr. LEACH. Does it make sense to you, Ms. Phillips?

Ms. PHILLIPS. Yes. And through the examination procedures, specifically, the examiners do look to see whether or not senior management are apprised and have risk management systems in place to assess the risk of their institutions.

Mr. LEACH. Fair enough. The only other final thing I would like to say is that the regulators with private industry input should be developing model risk management systems which borrow from the best.

Frankly, in the Group of Thirty effort, J.P. Morgan was very forthcoming in pointing out some of the things that it does in trying to institute an industry standard. But it is in the vested interest of all banks have solid standards for other banks. There ought to be some major input from the regulators. I would hope that you would move in the direction, not of simply asking that certain things be in place, but that you have model institutional arrangements, whether they relate to bank capital or to the percentage of trading activity for one's own account vis a vis customers' accounts.

One bank in New York says that only 20 percent of their trades are for their own account as opposed to for their customers. Other banks have quite higher percentages. But there are different ways of measuring relativity—risk as well as capital—underpinning what I think is very important for the entire system. An individual bank cannot be assumed to have 100 percent discretion, because of the vested interest both of the system and of all of the participants in the system that there be some security. The implication also being that if you develop these standards, that they apply to nonbanking institutions and to new entrants. It is perhaps the only way to contain and constrain that kind of risk as well.

But I just hope you are forthcoming in the development of what we have been discussing. You have to do it, obviously, with a great deal of input from the industry. I don't know. Is the Fed developing that?

Ms. PHILLIPS. I might mention that we are field testing now our trading activities exam manual which contains a sound practices paper, and that is being field tested at this time, and it may be that at some point after we go through that process, that we may issue some kind of policy statement specifically. But that is exactly the process in which we are engaged.

Mr. LEACH. Fair enough. I thank you.

And I thank the chairman.

The CHAIRMAN. Thank you.

Mr. Bacchus.

Mr. BACCHUS OF FLORIDA. Thank you, Mr. Chairman, and thank you for summoning us to this hearing.

I have a lot to learn about this issue, as apparently we all do. Right now I am trying to decide whether this is a problem in search of a solution, a series of possible solutions in search of a problem. I haven't reached any conclusion.

I will say this. In my brief time in the Congress I have noticed that Chairman Gonzalez is often light years ahead of the rest of us. He called hearings on BCCI when no one else knew what it was or seemed to care. He gave some awfully lonely speeches on the floor of the House about arms sales to Iraq and was ridiculed for doing so. He is no longer ridiculed.

So I have learned to listen to him, not just because I enjoy his stories, but because he is often right. I don't know whether he is right in thinking this might be a problem that needs a solution. That is why we are here. We have a lot to learn.

Mr. Chairman, I have a number of questions I would like to submit for the record. But for today, I would like to just ask one of the questions. I would like to ask it, if I might, of Mr. Hove.

But first I would like to read something that he submitted for the record from his testimony, and this is a quotation. "The combination of sound institution management, market forces and appropriate regulatory supervision under existing guidelines sharply reduces the likelihood of any significant disruption in the banking industry as a result of financial derivative activities. The relevant regulatory authorities identify adverse actions taken and positions assumed by an institution prior to their developing to the extent where even an unforeseen market shock could result in failure. Such actions or practices are stopped or restricted under the general authority of the supervising agency. As a result, the FDIC believes that the risk to the insurance funds posed by these activities are effectively limited."

Mr. Hove, the question I have is this. Has any U.S. bank ever experienced financial difficulties because of its activities as a dealer in derivatives over the counter? If so, could you tell us a little bit about that and how it happened and why?

Mr. HOVE. No, they have not. And again, as I have mentioned before, there are not a lot of banks that are in a dealer derivative position. Most banks use it as an end-user to manage their risk portfolio or manage their portfolio for interest rate risk. Those that are dealers in a large sense have matched their book or matched their portfolios, so that the risk that they are taking from one end-user they match off to another end-user.

Now, the risk may be in the differential if there is a credit loss in one or the other of these. But in order for the large systemic risk that you are talking about to happen, it would have to be a dealer institution that was mismatched in a large manner and mismatched with institutions in such an amount that would cause a cascading effect of not only the dealer institution to fail, but also other institutions to fail beyond that.

We have not seen that happen. It appears that most bank dealers are matching their portfolios, so that there does not seem to be that tremendous systemic risk that we all are concerned about. That doesn't mean we are not concerned about it, but we haven't

seen it yet. As we look at it and monitor it from time to time, we don't see that. But that is not to say that it couldn't happen, and it is not to say that we are not really concerned about it.

Mr. BACCHUS OF FLORIDA. Thank you, Mr. Hove.

Thank you, Mr. Chairman. I will submit the further questions for the record.

The CHAIRMAN. Will you yield?

Mr. BACCHUS OF FLORIDA. Of course, sir.

The CHAIRMAN. I want to compliment the gentleman. It was a definitely good and incisive question.

Mr. BACCHUS OF FLORIDA. Thank you, sir.

The CHAIRMAN. And it also will satisfy your confidence as to why I would be motivated to call this hearing.

First, we have had some miscalculation and losses. The great Perusi conglomerate in Italy lost its shirt, over $20 billion in this currency futures. And it involved American banks. And even though it hasn't been reported in the American press, it certainly has been in the European. And the big fight right now is how Perusi is going to be able to spread out its share of losses and contributions from the American participants, some of our principal banks.

Then we have had shadows on the walls long before this. In 1974, in fact, at that time I was a little bit lower and I couldn't convince the then chairman to have hearings, but we had the Franklin National Bank go broke, and the reason for it is that it lost all of its deposits, $3.2 billion because of its trading, if you want to call it that. To me, it is gambling in foreign currencies. That was in 1974.

That was also another hallmark year because it was also the year that Continental Illinois went under. And the reason, the immediate cause, there were underlying causes, but the immediate cause was that in 3 days, the Japanese and the Germans and other depositor groups withdrew $8 billion in 3 days.

So you know, it shows you the velocity which now incrementally, it is exponential in growth. In fact, as I said earlier, in what they call now a nanosecond you can have these, just a blip on the computer, and you have, in the world market, you have better than 100,000 traders ranging from individuals in the United States with a computer at home, that if they can get the necessary money together, they go right in and plug in and they are in the—you can call it whatever you want to. In my book, it is gambling. And gambling means risk.

Well, our life is a gamble, you can say. But when we have depository institutions that are insured and have the backing of the taxpayer, that is when I think we have an inescapable responsibility in the Congress. That is the reason.

So I thank the gentleman for yielding.

Mr. BACCHUS OF FLORIDA. Thank you, Mr. Chairman.

The CHAIRMAN. But we do have, and at this point the Perusi fiasco is very much present and alive.

And I hope that caution and restraint are used. But when you get the central bankers of Germany and they reach the point where they issue a report—which incidentally, I am going to ask unanimous consent that the Bundesbank October report that I re-

ferred to in my introductory remarks be placed in the record following my remarks at the outset of the hearing.

Mr. LEACH. Will the gentleman yield?

The CHAIRMAN. We are having them translated by the Library of Congress and that is the only reason for the delay.

Mr. LEACH. Will the gentleman yield?

The CHAIRMAN. Yes.

Mr. LEACH. Should we pass a law making it required reading for American regulators?

The CHAIRMAN. Well, don't get me wrong, I am not going to minimize the capacity and the ability of American regulators. We have a system, and it is entirely different. We have a different cultural and everything else heritage, and I am not going to make disparaging comparisons by saying the Germans, that doesn't mean that—they just have a different system.

The bankers, even though they are private bankers, traditionally and for centuries considered themselves an integral part of the governmental process. They work in conjunction. And, of course, that is a different system.

I don't know that I would necessarily—Italy, for instance, despite all of the disparaging things we read about Italy and the Italians, they actually have a tremendous history of—I mean most noble and able financiers, and it is true up to this day. But they are involved in a serious crisis. And all I am saying is that I think—and I have always believed, once I served in the public, elected representative, legislative capacity on the city council—that it wasn't enough to go in the traditional sense; that is, the political—as I learned, as I went along was to say, Well, don't rock the boat. Let's see which way the wind is blowing, and then try to lean that way. I felt that we had to be anticipating, we had to anticipate things. And this is what I call these. These are anticipatory hearings, which will give us in times of dispassionate consideration and relative calmness a chance to evaluate and assess as far as we can on our level intelligently and as far as our responsibility and constitutional power statutorily. That is the only reason.

Mr. BACCHUS OF FLORIDA. Will the chairman yield for a moment?

The CHAIRMAN. Certainly. You yielded to me.

Mr. BACCHUS OF FLORIDA. Thank you, sir. You made an excellent point about the history of Italian banking and I recall the rise of Florence in the mid-15th century that was fueled by the rise of the Medici family and their rise was fueled by the fact that they were the leading commercial bankers in Europe.

The CHAIRMAN. Exactly.

Mr. BACCHUS OF FLORIDA. And they did find and they contributed to art and culture and to their own community and their own nation for so long as they were prudent, as Mr. Bush might put it. But when they began to engage in deficit spending and too much gambling, if you will, they began to decline, and Florence declined as well.

The CHAIRMAN. That is the loss of history. But there again is where I have this absolute unlimited faith in this system which has given us an opportunity to operate in and contribute whatever it is we have.

I at no time, as despondent as one might want to get, or fearful, have ever subsumed to the pessimism that—look, this country has gone through epidemics and droughts and wars and civil wars, and even supply side economics, and it has survived.

Mr. BACCHUS OF FLORIDA. We are not yet sure if we survived supply side economics, Mr. Chairman.

The CHAIRMAN. So far I think we have been relatively well off. But anyway, thank you very much, Mr. Bacchus.

I think we had a notice here. Are those the first or second bells?

Mr. NEAL. First. I think we will have time to recognize Mr. Baker.

Mr. BAKER. I shall be brief, Mr. Chairman. I won't take the time to correct all the historical observations previously made; I will just move on directly to my important questions.

The CHAIRMAN. Well, Louisiana, you ought to give us some historical——

Mr. BAKER. Well, we certainly could tell you a lot about gambling, Mr. Chairman.

I am going to direct my questions, a brief statement and a couple of questions to the Comptroller because of the issuance of the circular 277, and I have tried to read it and I don't know that I understand it, so I am making this statement prior to questions to give you my frame of reference.

As I understand derivatives in the marketplace, they are really intended to be risk management tools. And so in looking at the derivatives market as a risk inherent in them, it is somewhat ironic that it was developed as a product to hedge against unforeseen market risk, that the policy itself seems to say, before you jump, open your eyes and make sure you understand what you are jumping into. Assess the risk and then move ahead.

And principally, for nationally insured institutions to use these vehicles as risk management tools, not as speculative investment practices, and even there, only nominally as a portion of our overall risk management strategy.

That being the case, I somewhat differ from the comments of an earlier member talking about the need to regulate product rather than institution. I think we cannot regulate product successfully as regulators, because we always are responsive to market, not ahead of the market. And whatever the derivatives product line looks like today, the only certainty is that it will be different tomorrow. Because risk changes, therefore, the product changes.

As a result of that, I think the advisory circumstance which you have created in the circular is well founded in that you require the institution to take certain actions presettlement before taking on the bulk of the unforeseen obligation. In fact, in C–2 you require the presettlement risk analysis to include, if available, simulation analysis which is then made available to the regulator.

What is troublesome to me, though, about the regulatory provisions is that in C–1, when there is an end-user who acquires from the bank, you then look to the banking institution to do all that is possible to advise, but go even one step further, in my opinion, by requiring the bank board to document that they are not guilty in the event the acquirer later suffers a loss as a result of that purchase.

I think the "look before you leap" concept is excellent, but I think we are going a little too far when we say the fellow who sells it not only has to look where you are leaping, he has to see whether you land on your feet or not, and that he may be responsible for your decision to enter into business risk.

So I wish you would perhaps address the question of the appropriateness of that level of liability, because it appears bank directors or bank officers may be held responsible for losses of third parties.

The second observation and question deals with the systemic risk addressed by Mr. Fiechter and others that may or may not occur. I am wondering if there is a regulatory mechanism currently available to you in somewhat similar fashion to that of trading regulators of the market where a significant correction phase is entered into and program trading is suspended, for example.

This is a much more complex market, and I don't know that there is a single net which can be cast over all the participants to stop, for example, for a 24-hour period all trading in derivative markets.

And then finally, in F-1 of the 277, you speak to reduction of the counterparty credit exposure, which is—let me quote you there, where in order "to reduce counterparty credit exposure, national banks use master closeout netting agreements."

But you go on to indicate, that where that is legally enforceable, of all matters that have been discussed this morning, the only area in which I see there may be need for further legislative action is where you identify under current United States Code, master netting agreements may not be legally enforceable and explain the circumstances, if any are warranted, where corrections in current code may be required.

I see I am out of time, but to the extent you want to comment.

Mr. LUDWIG. It looks like you did read with care and understand it awfully well.

Let me take your third comment first. The netting agreement legal risk is something that has to be focused on more broadly. Netting agreements can reduce risk further, but they only reduce risk to the extent that they can legally be entered into. That is something that we are concerned about, and we will certainly be making that point.

Mr. BAKER. If there are any specific observations you can make, I would be most appreciative to get them.

Mr. LUDWIG. We will be pleased to respond in writing.

Second, we did go further than I think most banks would have wanted us to go in terms of requiring that banks consider the appropriateness of the derivative instrument for purchase by the end-user. We are of the view that the bank as end-user has to be sophisticated to use these tools and has to have management signoff and understanding before they use it.

Mr. BAKER. But my concern there goes to the issue of the person rather than a geographic description. Somewhere in comments I have read attributed to you about a concern of a rural agricultural institution engaging in derivatives, but at the same time finding it appropriate for an individual to acquire commodity options in the same market.

I think we have got to get away from the product analysis and give pre-purchase, presettlement disclosure and let the individual make the assessment of risk, rather than as a regulatory policy saying that any product is not suitable in the market.

Mr. LUDWIG. I certainly agree with much of what you say in terms of assessing appropriateness for purchase. It is very much akin to, but not the same as, the suitability analysis used in securities transactions. But this does add an additional layer of protection for end-users so that we don't have banks that are end-users getting into products that they shouldn't.

It is not a fail-safe, it is not a guarantee, but we think it helps. I realize it does put a burden on the selling institution to make some assessment. It is a knowledge-based assessment. We are not requiring that they study all of the procedures, but these are sophisticated instruments, and the seller will have quite a bit of knowledge as to the buyer's——

Mr. BAKER. Let me give you the converse. The bank says to the consumer, No, you shouldn't buy this. The consumer keeps records, comes back and says, If I had bought this, I would have been able to make $4,000. I am suing you.

Because under the current circumstances, as I understand it, if you advise the customer and he loses money, he could then come back and sue you for loss because you didn't explain the risks suitably well enough and the bank is going to have to document sufficiently well that they informed the person of the risk to avoid the liability.

Mr. LUDWIG. I would like to respond to you in writing on that. We don't believe it goes nearly that far or gives rise to that kind of liability.

[The information referred to can be found in the appendix.]

Mr. BAKER. Thank you.

Thank you, Mr. Chairman.

The CHAIRMAN. May I suggest that Mr. Ludwig be given a chance to consult maybe with counsel and then answer you in writing or communicate the answer.

Mr. BAKER. Sure.

The CHAIRMAN. Well, thank you very much. We have about 5 minutes here for us to go record our votes, and there is no sense in keeping you here. You have now gone right to the lunch period, and we have another panel, and some of the members will be coming back, but we want to make sure that we have the panel that follows you.

Again, let me say how grateful we are to you, very much, ladies and gentlemen. And we will be in communication with you as we go into future hearings on this subject matter.

Thank you very much.

[Recess.]

The CHAIRMAN. The committee will please come to order.

Gentlemen, thank you once again for taking time from your duties and extremely busy schedules of your own to be here helping this committee. Unless there is some other member who might have some time constraints or problems, would it be all right if I go ahead and recognize you in the order that I introduced you, beginning with our friend, Mr. Mayer?

Mr. MAYER. Thank you, sir.
The CHAIRMAN. Thank you.

STATEMENT OF MARTIN MAYER, AUTHOR

Mr. MAYER. After 40 blameless years as a freelancer, I now have an institutional affiliation at Brookings but I still speak for myself and for nobody else.

Since it is the two of you here and you both have read my paper, let me just talk a little about some of the meaning——

The CHAIRMAN. Yes, as usual, what we will do is your prepared written testimony that you all have submitted will be in the record exactly as you gave it to us and you may proceed in a summary fashion.

Mr. MAYER. We have a couple of interesting things in today's paper, by the way. There is something in today's *Financial Times*, a report with the headline, "Banks Have Created More Sophisticated Forms of Swaps, Market Regains Momentum," and below there is a very interesting description of what is considered a sophisticated swap today. "The example of a U.K. pension fund which has seen the FT-SE"—the *Financial Times* Stock Exchange—"100 index reached an historic high while the French CAC-40 index continues to languish around 2,100, creating a spread of 900 points.

"If a U.K. investor believes the spread should be around 600 points, he can sell a 1-year Footsie contract and buy a 1-year CAC contract plus a 900-point spread. If the 'correlation' is zero after a year the profit will be 900 points. The French contract would normally be paid in francs thus giving the U.K. investor an exposure to the French franc. However, with a correlated hedge, the CAC contract could be paid for in the client's home currency.

This would remove the implicit foreign exchange exposure. Such is the sophistication that Chase says brokers are trying to trade the correlation or spread on a separate index."

We have seen some of that actually happening. The end question for a lot of it is cui bono? What does this have to do with financing the world's enterprise? The answer is, it doesn't have anything to do with financing the world's enterprise. Arbitrage activity is a perfectly wholesome, sound, normal activity but the kind of resources that are being devoted to exploiting the relatively small information advantages which the central players have over others are I think beginning to detract from the central function and mission of the financial institutions.

You also have another story, in today's *Wall Street Journal*, about one of the earliest of the financial derivatives, which is the interest strips of mortgage securities, a little comment about the big losses that the dealer firms have taken in trading such paper.

The essence of the derivative contract is that it permits you to control a much larger underlying quantity of a financial commodity for a relatively small commitment of money up front. This sort of thing is inherently dangerous.

Now, this leverage can be used for hedging purposes, or it can be used for speculative purposes. The problem I have, and let me quote now because my colleagues here on the panel undoubtedly haven't read it, can best be found in a comment by my friend, Scott

Pardee, who is now chairman of Yamaichi International, who was prior to that vice chairman of the Discount Corp., and prior to that was for many years the Federal Reserve's chief currency trader out of the New York Fed, senior vice president of New York Fed.

He said at a meeting just about a month ago, quote: "Each derivative product is an exercise in product differentiation. As sellers of futures and options products, we are always seeking new strategies which will generate more commissions or trade at a wider bid-spread than we can earn on the underlying product." This suggested to Pardee, quote, "an FDA approach to financial services; The Fed, the SEC, the CFTC, and the SROs should make a practice of asking what this new derivative product would be like 5 years from now and what can go wrong as a result. The creators of such products should be prepared to demonstrate that their invention will not prove to be a financial form of thalidomide. They would be liable for the results, both as firms and individuals, even if the individuals are now basking comfortably on their yachts in Florida, having taken the money and run."

I have two basic statements on such problems. One, which I have called Mayer's law, is that risk-shifting instruments eventually shift risks onto the least able to bear them.

The other, which I would like to quote from the end of my testimony because I wrote it carefully, is that "the profitability of this trading derives from market imperfections. If all were known that could be known, a company should not be able to borrow more cheaply in a foreign market than in its home market, the value of a long-dated interest-rate swap should be obvious from the difference between the price of a conventional bond and zero-coupon bond at the same rate and duration, and the value of a currency swap should reflect that difference in interest rates to be earned in the different currencies. Profits arising from market imperfections are presumably fleeting." Which brings us back to Scott Pardee's point about product differentiation.

If you look at the swaps and swaptions and options and these situations today as they are being practiced today, I think the odds are that they are not terribly dangerous. But if you have any sense of the dynamic development of financial markets over time, and the guide on that is still Hymar Minsky's law, which is that as people have good experiences they reach further; they reach into less creditworthy borrowers, and at some point in the game you have substantial losses.

To my friend from Morgan, it won't happen. Morgan will be long gone by then, but the taxpayer will have the losses. I think one has to have a regulatory apparatus in place, a very sophisticated one which is looking at these things and not saying let's try this out and see what happens, but saying wait a minute, who is going to be playing in this market? How are they going to play it and how great are the risks?

I think that from the testimony of the regulators that I read and from what I heard from the other room, since I couldn't get in here, coming a few minutes late, the regulators are still looking at this on a static basis; the time has come to compel them to look at it on a more dynamic basis. Thank you.

The CHAIRMAN. Thank you very much, Mr. Mayer.

[The prepared statement of Mr. Mayer can be found in the appendix.]

The CHAIRMAN Mr. Brickell.

STATEMENT OF MARK BRICKELL, VICE PRESIDENT, J.P. MORGAN, REPRESENTING THE GROUP OF THIRTY

Mr. BRICKELL. Thank you, Mr. Chairman.

I am happy to be here today. We welcome this hearing because it gives us a chance to provide more information about a banking activity which fits very well with our traditional banking functions, and which is potentially more important in the future. I should add that I think hearings like this make it more likely that there will not be problems with derivatives in the future; the kind of inquiry you are conducting is especially helpful in that way.

I appear here as a member of the group which prepared the global derivatives study and submitted it to Paul Volcker and the other members of the Group of Thirty.

The study is described in greater detail in my written testimony, but in a nutshell it identifies 20 principles of good financial management and goes on to make four recommendations for legislators and supervisors about some things they can do to strengthen the framework that surrounds swap activity.

Banks are in this business because their clients demand it. Newspaper headlines describe derivatives cutting the costs of hamburgers sold by companies like McDonald's, so the benefits of these risk managing tools go right down into the real economy and they do it quickly.

The study concludes that these activities help bank clients, the thousands of corporations and government entities who use them, but the study also asks the question: Are these deals too risky for the banks, or are they too risky for the system? As the report says, there is no room for complacency on this issue.

The study concludes that the risks of swaps are the same types of risks that banks manage every day in traditional business activities. With swaps, banks are managing credit exposure, market exposure, legal and operations risks and each of these risks exists in greater size in traditional activities. The group also examined and ranked sources of systemic risk. Those risks must also be managed carefully and they are obviously getting close attention, as we heard from the panelists this morning. But like the studies that the banking supervisors have conducted, report to the the Group of Thirty saw no significant increase in systemic risk from derivatives.

Now, to help explain that conclusion, I would like to put credit exposure, the largest risk that dealers face, in perspective. The report concludes that swaps exposures are relatively small. They are high quality and they are well managed.

I brought two charts to help explain credit exposure and put it in perspective and they also are attached to the written testimony.

[The charts referred to can be found in the appendix.]

The bar chart on the left shows credit exposures from derivatives at the top 50 banks. The first bar is the notional principal amount

of derivatives and it is truly a mind boggling number; $6¼ trillion of notional amount.

As you have already heard today and as Mr. Mayer has said, that is not the true risk of swaps. The real credit exposure on these transactions isn't even the $140 billion bar, the second bar on the chart. It is actually the net credit exposure, $91 billion after netting of swap transactions is taken into account.

It is still a big number, but I think you can see the very important impact in risk reduction that the netting legislation this Congress has passed has brought to the banking system. It has taken billions of dollar of credit exposure out of the system.

The value of all credit exposures of those 50 largest banks on December 31, 1992 was about $1.6 trillion. Nearly all of this was exposure taken through traditional activities. This is shown shown in a different way on the pie chart.

Swaps create only about 5.5 percent of credit exposure at these top 50 banks, and that credit exposure is higher quality than the other exposures shown on the pie chart. I should add that this credit exposure is often taken on to reduce the other risks, such as the interest rate risks or currency risks to which banks are exposed.

What about market risk? David Berry will testify in a few minutes about market risks, and judging from his written work it appears that, as swap dealing grows, the trading revenues of the banks involved in the activity are becoming less volatile, indeed much less volatile than credit revenues. That suggests that the activities are well controlled. The study says the same thing. The principles of good management are "best practice." They are not a minimum and, as you heard in this morning's testimony, the most advanced thinking about risk management is being done by derivatives dealers.

Because this way of thinking starts with derivatives, bank involvement has been so far a healthy development. And as the use of derivatives expands in the banking system and in the economy, and as these principles are more widely used, the U.S. banking system is likely to become safer and sounder, more competitive, and better able to fulfill its role as a provider of financial services in this country and abroad. Thank you.

The CHAIRMAN. Thank you very much.

[The prepared statement of Mr. Brickell can be found in the appendix.]

Mr. Berry.

STATEMENT OF DAVID S. BERRY, DIRECTOR OF RESEARCH, KEEFE, BRUYETTE & WOODS

Mr. BERRY. Thank you. I am the director of Research at Keefe, Bruyette & Woods, a broker/dealer investment banking firm specializing in the commercial bank industry. We have been in business for 32 years. I have been a bank analyst for about 9 years and following money centers for a good piece of that time.

As an equity analyst, I am interested in the businesses that the money center banks are involved in. Obviously, being dealers in the derivative business is part of that. And we have done some

work trying to understand what the risks of this business are and what the growth characteristics of that business are.

Banks report most of the revenues from derivative activities within a line item on their income statement called total trading revenue, so it is mixed in with a variety of other kinds of trading activities: Foreign exchange, bond trading, and so forth.

The reason for that is that a lot of risks involved in the derivatives business from a dealer perspective, and a lot of systems used to manage risks are the same for derivative products as they are for other traded instruments. This might provide some comfort that what at first might seem like a very exotic and new form of activity at these banks actually has its roots in activities that these banks have been involved in for quite some time. There are various kinds of risks involved in trading activities and derivative activities. Mark just went through them: The credit risk; market risk; operational and legal risk.

If I could just take those in turn. Credit risk. There is a credit risk component to derivatives activity. The good news is that managing credit is a core function of banks and always has been. As near as we have been able to tell from our discussions with the major dealer banks, the same principles used to manage credit in the derivatives business are the same principles they use to manage credit throughout their businesses. And by that, I mean, a fair amount of attention to avoid single obligor, single industry exposure, and/or sensitivity to overall credit limits.

As a side point, it is worth pointing out that the derivatives marketplace seems to place a high premium on creditworthiness, and if I can make a broad statement about the money center banks, over the last few years there has been a universal move toward higher credit ratings I think basically because the derivatives marketplace demands that.

In the derivatives business there have been credit losses but they have been negligible relative to the kind of losses banks incur in the course of their lending business.

With regard to market risk, I think in some ways this is probably the most significant risk in these derivatives or trading kinds of functions. Market risk refers to the fact if you own an instrument and the price changes you may have a loss. From the outside I don't think that anyone can really make a conclusive judgment about the adequacy of risk management systems in a bank. I believe that the folks who have considerable resources and who have access to inside information like accountants and regulators, can make a judgment. However, from the outside we can make some judgments based on behavior.

We have spent a lot of time talking to market risk specialists at these institutions. There seems to be quite a lot of consensus about the nature of what is market risk and the broad principles of how it should be managed. There seems to be quite a lot of consensus. Details differ from institution to institution, terminology differs, but I think the basic principles are fairly widely accepted at this point.

Those principles involve position limits which in turn are based on volatility of traded instruments. Those limits apply at the individual trader level, at the trading desk, and for overall risk group.

That process also importantly involves a mark-to-market process for all traded instruments, and the reason that is significant is it means it is virtually impossible to be surprised by market risk. You will see a position deteriorate before your very eyes. It is not like a loan to a corporation which looks good one day and 2 months later goes bankrupt.

The third point I would make is that the market risk management process is separate from those who are engaging in market risk on a day-to-day basis. The risk managers are not the traders. That separation of those who incur the risk and those who oversee the risk is vital and is analogous to a bank dividing up its lending function as a separate one from its credit review function.

The commercial banks are well suited to manage market risk because they trade such a greater variety of instruments than, say, securities firms in the United States do. Securities firms have the bulk of their trading denominated in U.S. dollars bonds and equities. The commercial banks are trading a vast array of products tied to United States but also non-U.S. interest rates and foreign currencies, as well as various other kinds of products. That kind of diversity mitigates the kind of risk involved in these activities.

That is all very fine and well but you don't really know what is going on until you look at the track record. We have done that. We have compiled over 10 years of trading results for a number of the major dealer banks. We have looked at the seven largest trading banks as measured by trading revenues in the United States over the last decade. Two of those companies did significant bank mergers over the last few years. In effect, we have really looked at nine banks over the better part of 10 years. That is 373 separate quarterly observations of individual bank trading results.

Over that period individual banks posted only four quarters of trading losses. The cumulative losses were $19 million. The cumulative gains over the 369 quarters when banks posted gains were was almost $36 billion. I would submit that that level of consistency suggests that the banks are not, in fact, engaged in a significant amount of gambling or speculative activity and that the gains are being earned on a series of cumulative small gains rather than the payoff of one big bet. I think that kind of consistency speaks to the kind of risk management and customer-driven processes that the banks say that they have.

I would also point out that during this period we have had a couple of high stress events, a market crash in October 1987, and the European monetary system came under severe stress last year in the third quarter and then more recently midyear this year. We did not see any of the major dealer banks suffer losses as a result of that.

I think to the extent that you worry about rapid growth in this business you might be more worried about it from an operational or a legal perspective. Any fast-growing business activity could outstrip management's resources or the management information systems or just the back office capability of handling a high volume of activity. I think that is an area of concern. I think bank managers are concerned with it. I think regulators properly would be concerned with that issue.

But I think we should distinguish growth in this activity from other areas where banks do get into trouble when they grow rapidly. The most common way banks get in trouble happens when they rapidly grow a part of their loan portfolio. There are two ways this can cause trouble. One, again, just outstripping their own capacity to handle the growth. The second, in aggregate, from a systemic point of view, if a lot of banks as a group decide to extend credit to a small sector of the economy, they can severely distort it. What it creates is an asset inflation, and subsequent bust of asset values can leave a lot of banks licking their wounds. I can point to the oil and gas service and supply credit binge in the late 1970's as an example of that.

In the derivatives business, we are not really talking about a business that involves the extension of credit. There is a credit risk element to derivatives, but we are not talking about the extension of credit per se, so I think the opportunity to distort a piece of the economy just is not there in the same way as you have seen with rapid growth in bank lending activities.

The overall growth of the market seems to me to be due not so much to banks taking on greater and greater risks but taking on small amounts of risks with a larger and larger number of participants. In this case, the greater number of participants means less risk because the markets are more liquid and the activities the banks are involved in are increasingly diversified.

So to date, it certainly looks like a healthy business, one that adds value to customers, one that is being well managed from the dealer perspective. Frankly, we are not really worried about this business from the dealer perspective. Thank you.

The CHAIRMAN. Thank you.

[The prepared statement of Mr. Berry can be found in the appendix.]

Mr. Griep.

STATEMENT OF CLIFFORD GRIEP, EXECUTIVE DIRECTOR, STANDARD & POOR'S

Mr. GRIEP. Thank you, Mr. Chairman, and thank you for the opportunity to be here to discuss the impact of derivatives on the creditworthiness of rated U.S. banks.

It is an area of great interest to S&P and to the credit community generally. You have my written comments so I won't go through this in detail. I would like to highlight a few points that are in the written comments. Our focus has been predominantly on the 10 or so major bank dealers in this market that represent about 90 percent of the overall derivative exposure in the U.S. banking industry. These firms serve as intermediaries in risk management instruments, and as a consequence, they tend to have significant market making and trading activities in derivatives and maintain sizable exposures.

Second, we focus on banks as end-users and as end-users management's primarily use derivative instruments in asset liability management, to change their firm's earnings sensitivities to interest rates. In general, the use of derivatives in some aspect of risk management is becoming increasingly common. And there is a wide dis-

parity of tactics and some differences in risk appetite reflected in the use of derivatives by that group. So it is difficult to generalize.

Overall, in terms of the derivatives market, we view its development as positive. We think that these instruments while they can and are used speculatively, have been primarily used to manage risk.

The derivative operations of the major dealers are consistent with their strategic purpose, essentially the intermediation of risk.

Most derivative-related exposure and profit at those dealer banks is customer driven, although the use of derivatives in proprietary trading and in their own risk management has increased—you asked for us to address the issue of whether we could distinguish between speculative and nonspeculative derivative activities, and that is quite difficult from publicly available information.

The risks of derivative activity at dealer banks are significant and there are certainly challenges related to measuring, monitoring, and disclosing those risks, but we don't think that those risks are disproportionate to other banking risks and we believe they can be effectively managed provided appropriate caution and control are exercised. And the caution is in order because I think this market is just growing too fast for anybody to have complete confidence in how these instruments might behave in times of market disruption.

We don't believe that either derivatives dealing with operation or moderate levels of proprietary trading activity are inconsistent with high ratings or strong creditworthiness and we have not lowered the rating on any of the major dealers as a result of their involvement in the derivatives area.

As I say, the derivative involvement has altered and heightened the risk profile of those institutions, but I think that risk has been largely mitigated by strengthening capital, improved earnings and profitability, enhanced market position in a consolidating industry, and declining risk profile in other operations, notably lending.

In a review of derivatives operations, we concluded that the derivatives business was characterized by strong profitability and good diversity of revenue by product market and geography, reasonably tight credit standards, and improving risk management over the longer term. We also concluded that firms with established operations in derivatives would be advantaged over the intermediate term.

An erosion of counterparty credit quality in response to increased competition in this area, a material shift from customer driven to proprietary trading or more dramatic erosion of profit margins than we currently expect, would all be negative credit factors. We have not seen that to date.

In terms of the risk management systems, our perspective is that risk management and control systems at the major dealers shows steady improvement over the longer term and we think they largely capture the risks of dealing in derivative instruments. However, it is also very clear that the pace of innovation and market growth is straining management information systems and the amount of management and regulatory focus in these areas we think is very positive and appropriate.

I mentioned that banks participate in the derivatives market as end-users. Derivatives are one of several tactical means by which bank managements can change the exposure of their institution to interest rates. While end-users vary broadly in terms of their risk appetites and their capabilities to manage risks, we haven't seen overly speculative use of derivatives or undisciplined use of derivatives, and instead have found their use to be largely prudent and often beneficial. The use of derivatives is increasing not just in the banking industry but across all industries, and it is an increasingly important component of risk analysis. Clearly, less capable managements may engage in risky derivative activities, jeopardizing the creditworthiness of their organizations.

There was a lot of discussion about current bank regulatory and FASB disclosure requirements. We believe that those requirements are somewhat limited and they are not sufficient to fully or precisely convey risk profiles and derivative activities to users of those public documents.

We rely to a much greater extent on the internal risk management system and disclosures in our meetings with management.

The implication of that, I believe, is something that you mentioned earlier in the session, which is that the absence of disclosure heightens liquidity risk for bank and other derivative dealers in times of stress. We regard the accounting, regulatory, and management sensitivity to analysts' needs in this area to be very positive. But there are some shortcomings there.

The one other area that got a lot of discussion was capital requirements. We think that the derivative activities of banks are resulting in increasing capital requirements both under current capital regulations in place and also under proposed capital requirements that are intended to capture market risk.

Our own estimates of capital need to support derivative dealing operations, which are described in the written commentary that was submitted, are roughly approximate to those suggested by current regulation.

We generally support regulatory efforts to capture market risk in their capital requirements. There are some significant practical difficulties in implementing that. I think the end result and most important implication once implemented, assuming that it is successful, is that the capital requirements will be more dynamic and responsive than the capital requirements currently in place, the implication being that banks that are active in the derivatives market would need to raise capital levels.

I will leave it at that and I am happy to answer any questions.

The CHAIRMAN. Well, thank you very much. I think you did hit essentially—I want to thank you very much. That was a very good statement. Very good summarization. I think you hit, though, maybe somewhat unintentionally, on the dilemma, as we see it.

The regulators admit to us that they have no way of precisely assessing the magnitude or the extent of the speculative—if you want to call it that, that is what it is called—side of this as far as the banks are concerned. They have no way of precisely—they tell us we feel they are not doing much or dangerously much, but actually they don't know.

Now, how would you, in your method of ascertaining the risk potential and in your discussions with these managers and officials of the banks, how would you more precisely evaluate the range of involvement?

Mr. GRIEP. Just to reiterate a few points, most of the profits we see derived from derivatives activity is coming from customer-driven activity as opposed to speculative trading activity, and derivatives are just one instrument or one set of instruments in which banks can conduct trading activities.

In terms of disclosure, the basic information that we need and I think that regulators need is, how much risk is being taken and what is the return on that risk.

We have got a better handle on risk than on the return side, and the reason is that the financial reporting currently does not break out, in any degree of specificity, what function of derivatives activity the revenue is derived from. For example, it could be derived from origination fees. It could be derived from spread business. It could be derived from trading. It also does not break out derivative revenue byproduct, so it is tough to discern from just the one income statement line on trading activity, how much is derived from speculative versus how much is derived from customer-driven activities.

In meeting with bank managers, those are the questions. Please break out how much of your earnings comes from proprietary trading, and of that how much from different kinds of products. Bank managements have varying degrees of success in responding to those questions.

I think the ones that are involved in proprietary trading in a large way can generally do a better job at breaking out the detail. But in some cases the underlying management information systems don't capture the information in the degree that we might want.

The other areas are just to ask about trading limits by product and to get a sense of how those are managed, and when you compare those from firm to firm, you get a relative sense of risk appetite.

The CHAIRMAN. When you referred to erosion of creditworthiness and then the possibility of certain things happening, of course, you are in an area there that certainly you can't mathematically precisely fix, but that precisely, the question, at what point would it become apparent, if not obvious that you are reaching that saturation point, that danger point?

Mr. GRIEP. That is difficult to answer. Derivatives as a dealing business is looked at within the context of a broader organization and mix of businesses. And in, and of itself, does not substantively increase the risk of an organization.

I believe if a business becomes overly reliant on speculative or proprietary trading activity, and consequently their earnings become more volatile, that is a negative credit factor. It is very difficult to draw a line and say, at what level does a derivative trading activity or a derivative dealmaking activity result in a downgrade or an impaired creditworthiness.

The CHAIRMAN. Well, it is true and this is an extremely complicated and complex area, but from my standpoint, my worry has

been all along—and not only in this area but in 1979—on the rather quick and exponential lending of the principal banks to so-called Third World countries with a feeling, as expressed by one President, that these were sovereign loans or debts and therefore they were very safe. And, of course, having been imbued with some of the history of sovereign loans back in the 18th and 17th centuries, well, I naturally was worried then and I spoke out in 1979.

But at this point the overall worry is that whether it is this or that kind of defined derivative or corollary activity, as far as the accounting is concerned, all of that is on the off-balance sheet account for which the banks don't have to have reserves, and that is where I worry. So if you have a comment, that is fine, if not, well, you know, I understand.

Mr. GRIEP. Just a couple of points. Actually, the off-balance sheet activity is captured in regulatory reporting and regulatory capital requirements. So these positions are market to market and an estimate of the risk exposure is captured and included in regulatory capital requirements. So there is an allocation of capital to cover the risk.

The important distinction about the derivatives business from past banking businesses which grew rapidly, in which it was subsequently discovered that some of the valuations or the risk analysis may have been imperfect, is that the mark to market discipline imposed on derivatives trading activity and derivative dealing activity is very meaningful from a risk management and risk discipline standpoint. And I think that the improvement in risk management capability that you see at banks and the improvement in regulatory capital requirements that has occurred is in large part a response to that discipline of mark to market.

The CHAIRMAN. Well, my time is up. If we have a chance, we may come back, but if not, I am going to ask for myself and the other members the privilege of submitting questions in writing to the members of the panel and also ask unanimous consent that Congressman Maurice Hinchey's statement at the beginning of our proceedings this morning, plus extraneous material in the shape and form of today's *Washington Post* article, be inserted in the record as part of the opening statements. And if there is no objection, it is so ordered.

[The prepared statement of Mr. Hinchey and the newspaper article referred to can be found in the appendix.]

Mr. Leach.

Mr. LEACH. Thank you, Mr. Chairman.

We have all come to understand in all of life, let alone commerce, the past as it has been written in marble is prolog. But when markets change very rapidly, it is not always a necessary indicator of the future.

One has the sense in this market that there is a kind of fever. With that fever and with the rather substantial growth in the market, there are always greater questions that arise that may not leave quite the feeling of confidence that Mr. Berry has, even with his assessment of the past with all the profitability that has occurred.

Clearly, in the banking industry when one is providing a hedging service for existing customers, it is a guaranteed win-win circum-

stance. It is good for the customer, otherwise he wouldn't do it. It is good for the bank because of the fees it earns.

Also, a number of the banks are clearly trading for their own accounts, which means in effect that they are speculating. In speculation, by definition, there are winners and losers.

If in all of these quarters all of these banks have won approximately $36 billion, who has lost?

Part of that $36 billion is presumably servicing fees in which there are no particular losers. But on speculative accounts there is someone on the other side. So somewhere someone is coming up short. Can we assume that a commercial bank is always going to come up on the long side? And if we assume that, are there conflicts within banks which could disadvantage their customers?

For example, I can visualize a bank trader who may have made a mistake—and might want to dump it off on one of his or her customers. Are there ethical rules that also come into play with regard to the dumping of bad positions.

In the past, there have been allegations that banks have occasionally dumped certain trash into their trust accounts. Are there rules that come into play in such cases? From a regulator perspective, it in the interests of a bank and the regulators that the bank makes the profit, but has anyone addressed this issue from the perspective of fair play for the customer? Also, much more importantly, who is losing at this time?

Mr. BERRY. There is a lot there. Let me see what I can do with that. I guess the first thing I would say is that in the management of a trading function, you make money in ways other than guessing the market right.

If you are a dealer, you stand ready to buy and sell at any time and you earn a spread for doing that. That is part of the profit. To the extent that you are engaging in a transaction which creates some kinds of credit risk, you need to price for that. If you do it correctly, then credit risk is a source of profit.

And the third thing, particularly in the over-the-counter derivatives market, a lot of transactions are really tailor-made structured transactions designed to solve a particular customer's problem and you should get paid for that as well.

So I don't want to minimize the market risk element to it, but there are a lot of things that get wrapped up in trading revenues that do not involve taking a view on the direction of a market.

Banks in the management of their customer business inevitably cannot help but incur some market risk themselves, and hence there are a lot of systems in place to manage that risk. It is not something to be avoided. It is something to be managed.

Mr. LEACH. I appreciate it. Let me cut you off, if I can. The yellow light has come on quite brightly, and I do want to get one question to Mr. Brickell.

In the Group of Thirty report there was careful avoidance of the capital issue, and this is a very helpful constructive report, in my judgment. On the other hand, there is no assessment of capital.

There are some that are suggesting today that derivatives provide ways for banks to leverage money without relation to capital bases. Are you prepared to make any suggestions on what levels of

capital should be required for those kinds of instruments? How important do you consider this?

Mr. BRICKELL. Well, as the banking supervisors pointed out this morning, there are capital requirements for derivatives transactions, particularly for the credit risks. The largest part of the risk that we take is credit risk. In addition, both the Fed and the Basle Supervisors Committee are working on capital requirements for market risk. In fact, in the report, 1 of our 24 recommendations was specifically directed at the capital issue.

In the four recommendations for legislators and supervisors, we point out that the existing capital requirements, the ones I just referred to, don't yet take full account of the reduction in credit exposure that comes about through the netting contracts that this Congress made legally enforceable. So that difference in credit exposure between the gross exposure of $144 billion and the net exposure of $91 billion is not yet recognized in the capital requirements.

That hampers the competitiveness of U.S. banks and it ties up scarce capital unnecessarily, which could prevent banks from doing other things like making loans to small business, so we did comment on the capital requirements to point out that they aren't perfect yet.

Mr. LEACH. Are you making the commitment on behalf of your bank to make a small business loan? Do you have any?

Mr. BRICKELL. My comments aren't directed to any individual bank but the banking system as a whole.

Mr. LEACH. We have a wonderful, respected bank. But it is not leading the country in commercial lending. A statistic that so astonishes me is that foreign banks in the United States have 20 percent of the assets and have more than 40 percent of the commercial and industrial loans. That tells me that the foreign bank presence in the United States is a great positive.

It also makes me wonder what incentives we are providing in your system to lend to America. The great omission in bank lending is American entrepreneurial enterprise. Mr. Mayer talks about the social value of these instruments. Historically, when we think of banking, the great social value of banking is providing credit for entrepreneurial enterprise. We are entering a world where banks, because of their vested interests, which is understandable, as in the game of developing instruments that leverage uses of capital. Banks aren't necessarily expanding entrepreneurial endeavors, although to some extent they do diminish some of the risks in commercial transactions. Mr. Mayer would you like to comment?

Mr. MAYER. I would like to comment generally. I have several quarrels with my colleagues here. I am sort of sad now that I didn't read my paper. I have just been given a list of the banks heavily exposed in the derivatives market as of June 30.

Mr. Berry says that this market is for high-credit rated institutions. Most of the banks on this list are not high-credit rated institutions. In fact, one of the problems the banking industry has had in this country is that the credit ratings of the banks have been below those of the better borrowers, and it has been very difficult for the banks to make a living.

This is not a market in which credit ratings have been important. I cite in my paper the comments by Robert Litzenberger, a

Wheaton School professor and president of the American Finance Association, in his presidential report in 1991. He said, quote, "Quoted swap rates do not reflect credit rating differences between the counter parties, that is firms do not pay up to do swaps with highly rated counter parties."

Then he explains. He gives his own explanation of why this should be so. But it shouldn't be said that credit rating is important when we can look at the people who are the big players and see they don't have very good credit ratings and we have the testimony of the president of the American Finance Association that credit ratings don't play a major role.

Mr. LEACH. If I could interrupt you. There does seem to be an implicit view that the large Federal banks have the——

Mr. MAYER. They have that.

Mr. LEACH. It is the Federal Government's credit rating.

Mr. MAYER. They have the U.S. taxpayer behind them and therefore they are OK. But both the FDIC and to some extent the Congress has now been helpful in saying to them, you won't lose money dealing with these guys, and there is a moral hazard in this situation which I think is quite clearly there.

Once again, these are not major problems today. The Fed has also made these guys much better risks in the last 3 years having directed government policy toward making the banks look profitable. But nevertheless, there are ways of looking at this that are quite troublesome to me. Nobody at this table, for example, has mentioned liquidity risk.

A recent IMF report argues that, "liquidity risks puts limits on the reliability of the methods used to control market risk, and should generate skepticism over claims that risk control software has eliminated market risk as a matter for concern." What that means is if you get in trouble, the over-the-counter market seizes up, you can't trade on it.

When you look at September 1992 when the British pound went, what you find is that the futures exchange markets in Chicago and London, the currency markets that are publicly traded markets, more than doubled their volume, because the banks couldn't deal with each other anymore. The over-the-counter markets seized up just as they did in October 1987.

It seems to me that there should be a clear bias in the legislation and the regulation for publicly traded instruments where there are public bids and offers, where there are real prices.

The banks tell me they are marking to market. You can't market 4-year, custom-made currency options to market. There is no market. You do a simulation and you say you have marked to market. Bankers Trust did simulations on that stuff and the regulators had to compel them to take off whatever it was, $45 million from the profits for the previous quarter, because those simulations were not good.

These are real risks around here and bankers deal with the way human beings behave in trouble. It seems to me there should be a bias toward exchange-traded instruments rather than custom-made instruments. There should be a bias toward things where we know the prices.

Banks' trading profits look the way they look in part because banks are allowed to carry securities at their cost. When they need profits, they move those with a higher price into the trading account. This is the way banks in fact behave and the regulators have not over the years controlled it much.

I am not saying that it is a crisis situation. I am merely saying that looking at it the way these gentlemen have been looking at it and the way the regulators have been looking at it is inviting a future crisis situation, and we should really be much more careful about saying just because we have got this happening now, it is going to be OK. Maybe it is, maybe it isn't. Let's do a little projection.

Mr. BRICKELL. May I respond to the question?

Mr. LEACH. I yield back my time. I think he is responding.

The CHAIRMAN. That is OK.

Mr. BRICKELL. I have thought about the question you raised about why banks don't lend more money. It certainly has been a troubling trend in the banking system since I joined the bank where I work back in 1976.

And I will come to that point, but I want to correct a misimpression that may be left by what has been said so far, that credit isn't an important element of decisionmaking in this business. There is some very powerful evidence to the effect that credit is important. The investment banks in this country have set up separately capitalized affiliates to deal in derivatives. And Salomon, Goldman, Merrill Lynch, each have created triple-A rated subsidiaries to be derivatives dealers.

Now, if credit risk doesn't matter, then those fellows are wasting their money when they make those subsidiaries triple-A quality counterparties. But I don't believe that is the case. I think they decided to make triple-A rated affiliates because they know that counter parties care about the quality of the credit that they are dealing with in this business.

And that triple-A credit standing they have created is higher quality than that which any regulator would ever require. It is market discipline that has made them create triple-A entities.

Real prices, definitely are available for these privately negotiated transactions, they are quoted on screens. They are quoted in the newspaper. There are journalists sitting in this room who print the prices for swaps and options every time their periodicals are released.

And, to come back to the Congressman's question, I think it its worth saying that if there were a bias in the system in favor of exchange-traded activities and away from privately negotiated activities, you would discourage bank lending.

I don't think we need a lot of engineering to bias the system away from privately negotiated activity. These privately negotiated derivatives, like privately negotiated bank loans, are a good activity for banks as long as they are well managed.

Mr. LEACH. Thank you.

The CHAIRMAN. Mr. Castle.

Mr. CASTLE. Thank you, Mr. Chairman.

This is very interesting to me. I spent part of the last 24 hours, a few minutes here and there, trying to figure out what derivatives

are so I don't make a complete fool of myself trying to ask questions. I am not sure I totally understand it yet, but I do sense that it is an area that is slightly different than the usual banking activities that we deal with.

I would like to ask anyone on the panel who might know the answer. It might be in the testimony; I didn't see it. What percentage of the insured banks in the United States participate in derivatives activities? Do even very small banks do this, or is it basically the Morgans and the Citibanks and the Chases and those who do it?

Mr. BERRY. The dealer activity is concentrated among very large sophisticated companies in New York, Chicago, and California. It is a relatively small community on the dealer side, which was what I was addressing my comments to.

On the user side, I think it is a much broader universe and is part of banks' regular management of their interest rate profile.

Mr. CASTLE. Putting it another way, do smaller banks pool their money and give it to the larger backs to invest in this, or the funds are not mingled at all, they don't go into pools of finance?

Mr. BERRY. A derivative contract is basically an agreement that will alter your risk or your exposure to a change in interest rates or a change in currency rates.

There are a series of cash-flows over time based on the change in interest rates versus the original contractual term, so if I were a bank and the arrangement of my deposits and loans and securities were such that I would earn less money if rates went up and I wanted to insulate myself from that risk, I might call up Bankers Trust and J.P. Morgan and do a swap. Then, if my current business is damaged because interest rates go up, I am compensated because I put a hedge in place. It is not very different than a farmer selling forward his soybeans into the futures markets.

Mr. CASTLE. To the regulation side of this, you stated earlier that Standard & Poor's in my view has always been an entity that looks at everything very closely, and you say that you have not lowered ratings because of bank derivative activities in any instance.

Have you in part had that as consideration in lowering or increasing ratings or any effect on ratings at all?

Mr. GRIEP. Not among the major dealers, no. In fact, the existing ratings among the major dealers would suggest that the ones who have implemented successful derivative dealing strategies have actually benefited from that in terms of their creditworthiness over the last 10 years.

Mr. CASTLE. If I was with your firm and I was worried about ratings and you know what would come up, I would understand I think mortgages and savings accounts and the various obvious things we are all familiar with in banks; when it got to derivatives, I would be edgy simply because I don't know much about it.

You all, I assume, have a great deal of knowledge in this area. Is this a form of trading and asset, if you will, or whatever, that frightens you at all? Are you very comfortable with it in terms of it being relatively safe because of the mechanisms that are in place that allow the banks to protect their customers?

Mr. GRIEP. Well, comfort would be overstating it, I think, but we did in our review of the major bank dealers come to the conclusion

that the risks were reasonably well managed and well identified, and felt that they were bounded in such a way that while there may be occasional losses in one or another area of derivatives operations, that the size of those problems would be of manageable proportion within the context of the overall risk profile of those firms.

We are concerned, and in the written testimony I have cited several areas of specific concern, but generally they are derived from the rapid growth and the strain that that is putting on not only internal risk management and management information systems and controls, but on the regulatory and the accounting area's ability to identify and to disclose those risks. But again, I think the ratings are the bottom line and we have not changed any ratings as a result.

Now, just the one other area that I would point out clearly as a company shifts to a greater reliance on speculative trading activity as opposed to customer-driven activity, that is going to have a negative ratings impact and there are examples of that in the broader spectrum of derivative dealers, but they are outside of banks.

Mr. CASTLE. Thank you, Mr. Chairman. I have no further questions.

The CHAIRMAN. Thank you.

Well, gentlemen, if you will bear with us so we haven't been interrupted by any rollcall votes signals, and if you have the time, we might be able to take care of some of the other questions that otherwise would be referred to you in writing.

I believe the thing that strikes me as being a basic, important thing from the regulators' reports are that they really don't have, though, they are doing I guess about as well as they can, the specific policies of reporting requirements concerning banks' speculative activities in this derivative aspect. And since I must for the record confess a great debt to Mr. Martin Mayer for years even before I thought I would ever be a Member of this great body.

Mr. MAYER. Thank you.

The CHAIRMAN. I believe I have every one of your books.

And it is really very impressive, Mr. Mayer, to go back and pick up a book, I think it was published in the 1970's, about the dollar. I believe it was—and see, that is what is hovering, as I see it, it is a specter hovering above us all as we discuss this, because if the European monetary system really gets fleshed out, as it looks as if it will be, and there is a reason why ever since I became chairman, I first discussed it briefly with Chairman Greenspan, but long before that I had been concerned, because of the continuing sustained loss of value of the dollar.

And what all history reveals when that happens over a sustained and uninterrupted period of time in conjunction with these other phenomenon, and it seems to me that if that, as the statistics seem to show is true, the great indulgence we have had of being the only nation that has been able to pay its debts in its own currency, and with, as I see it, a very clear danger that the dollar could be replaced as the international reserve currency unit, it seems to me that given the tremendous capability today to jerk the currency markets—we had last September's experience, and that it is important that we know exactly to what extent anything if possible could be done to ensure that should there be a change, it not be so

radical, that with this huge debt overhang that we have piled up in our country, governmental, private and corporate, that we would suddenly be paying the debt in somebody else's currency, whether it is the ECU, or whatever, or some combination.

It seems to me that for 5 years it was more than possible because it seemed that all that had to be done was a couple of these countries, two or three of them, to pool their reserves and nationalize their unit. So I was going to ask you, Mr. Mayer, the regulators, the OCC, and the Federal Reserve gave us excellent information of the credit equivalent, the risk exposure of the major bank derivatives dealers. The data shows that several of these banks have 400 to 500 percent of their capital in credit exposure from derivatives.

The question is, were you aware of this, and from a safety and soundness standpoint, do you have any recommendations you could give us as to what we could do, if anything?

Mr. MAYER. Well, that is a big question. This has been a very funny year in the world. The people who run Russia decided they wanted dollar bills for the strategic stockpile. So the Fed has been able to create lots of dollar bills and they have gone abroad and nobody knows what happened to them and they haven't had any inflation effect.

And the way the markets are responding to the postcold war economies are strange and nobody really understands it terribly well, except perhaps a lot of people who are making money out of it.

The derivatives phenomenon increases through the articulation of these markets and changes the way currencies relate to each other. The worry this year for me has been a sort of "distant horizon" Gresham's law, that people will be using dollars for transactions and keeping their marks and yens as a store of value. This is a possibility. It is not yet happening.

It is not beyond the realm of things that could happen. But that is modern communications; that is not banking. I don't know what you are going to do about it. You make a certain amount of mistakes, eventually you pay for them.

But the derivatives market has not concerned me as a matter of immediate risk. It has concerned me as something that is likely to spiral out of control. The speed with which it is growing, as Mr. Griep said, and the intense difficulty of keeping a handle on it. You know, Salomon Brothers just paid Abramson $30 or $40 million, it said in the newspaper because they took the valuation of a swap from prices in a newspaper.

They looked at their treasury desk, they said what are the prices today, and it was a day when the derivatives market was off the main market, which does happen in this world; they had it wrong. This thing can be multiplied. It is possible.

I did a study on marking-to-market for Pete Marwick once, and it is possible in long dated currency options for both sides to say they have a positive position at a given time. There are different ways you can do it.

The Group of Thirty calls for uniform accounting standards, and in the same recommendation it says, you should take down to your profits, down as profits what you show as a gain on these things from your own valuation of it. All this is clumsy.

As the market gets bigger, the clumsiness gets more dangerous. I have taken too much of your time with this. You have asked me a very, very difficult question and that is the best that I can do with it.

The CHAIRMAN. No. I think it was excellent and I deeply appreciate it. Of course, I will be submitting some additional questions and maybe touch on this and you can enlarge on it.

[The information referred to can be found in the appendix.]

The CHAIRMAN. But mind you, I am not saying that I let these fears of mine control. I am really an optimist inherently and essentially, but where there are possibilities, and those possibilities are in areas in which perhaps 1 year from now or 2 or 3 or 5 or 10 the question will be asked, well now, weren't you on the Banking Committee when all of this went on? What did you do, what did you say? And that is the reason I am concerned and trying to do the best we can.

Mr. Brickell, do you have a statement?

Mr. BRICKELL. Well, I wanted to—Mr. Mayer's comment, and being here with him today, reminds me that there are many of us here who owe him a debt. When I first started in banking, my introduction to that field came from the book that he wrote in 1975. And I think that one of the principles that he enunciated back then and stuck with through the years also a principle that this committee has enunciated in legislation like FDICIA; that is, that it is important to try to keep track of the market value of your activities.

I think it is worth commenting that in the derivatives business, we have tried to use the best thoughts of gentlemen like Mr. Mayer and do exactly that. One of the recommendations, and I think it is the single most important recommendation in the global derivatives study, is that derivatives dealers should mark their positions to market at least every day, sometimes more than once a day.

It is not always possible to get the precise value, as Mr. Mayer points out. Sometimes you have to make your best estimate of what the value is, but by trying to figure out what the value is each day, you quickly see when you are running into problems.

That is what makes the difference between this activity and some of the problems that other Congressmen here have worried about during the day, like the thrift crisis. There wasn't a mark-to-market attempt to try to keep track of what was happening in that business.

Here there is, and I think that if the nature of the business changes in the future, as Mr. Mayer has expressed a concern that it might, it will show up more quickly because we are using the principles that you all have passed on to us.

The CHAIRMAN. Well, thank you very much. You are most generous.

Mr. Berry, we didn't mean to neglect you, but we have some questions we will submit in writing, and I know that at least two other members have indicated that they will have questions in writing.

[The information referred to can be found in the appendix.]

The CHAIRMAN. So you have been very patient. You have gone through the day and right up to about 2:18 p.m. So I want to thank

you very much. Your help is of extreme value to this committee, and we will be in sustained contact with you anyway as we go into the future. Thank you very much, and the committee stands adjourned until future call of the Chair.

[Whereupon, at 2:20 p.m., the hearing was adjourned.]

APPENDIX

October 28, 1993

Opening Statement
Chairman Henry B. Gonzalez
Committee on Banking, Finance and Urban Affairs
Safety and Soundness Issues Related to
Bank Use of Derivative Products
October 28, 1993

This hearing is to examine the newest phenomenon sweeping the banking industry -- the use of derivative products. The aggregate credit exposure to U.S. banks from derivative holdings is $100 to $200 billion. If you believe banking industry promoters, derivative products are the best thing since sliced bread. Unfortunately, those same bankers were thoroughly toasted when similarly hyped endeavors like loans to lesser developed countries, highly leveraged transactions and real estate loans turned sour and ultimately blew up in their faces. Those failures seriously jeopardized the financial health of the bank insurance fund and we must take steps to ensure that the same does not happen with derivatives.

My purpose today is to ensure that regulators understand the systemic and operational risks posed by derivative activities.

It is also the responsibility of the Congress to ensure that supervision of bank derivative activities is adequate. We have asked the regulators many questions along these lines and I look forward to their responses.

On March 4, 1993, I introduced legislation, HR 1214, to consolidate the bank and savings and loan regulatory agencies because I believe the public would be much better served by the existence of a single bank regulator to deal with complex issues such as derivatives.

In my invitation to regulators to appear today, I asked them a series of questions about derivatives. The responses I received indicate that each regulator has a slightly different orientation and philosophy toward derivatives and what steps are needed to ensure safety and soundness. Having four bank regulators formulate policies for the same topic is counterproductive and provides another example of why consolidating the regulators is a top priority of this Committee.

Bank derivative activities also raise a number of concerns. First, the credit risk exposure from these activities is high. In fact, at most money center banks, the credit exposure from derivatives is well over 100 percent of bank capital. At J.P. Morgan, credit risk from derivatives exposure as a percentage of bank capital is a whopping 330 percent and at Banker's Trust, the figure is an astronomical 439 percent of bank capital.

Another worrisome fact is that these figures do not take into account other types of risks such as market risk and settlement risk. In other words, these banks are likely to be vulnerable to any serious disruption in the credit markets.

Compounding these problems is the absence of standardized and adequate disclosure of bank derivative activities. Until disclosure is improved, both domestically and internationally, the markets and regulators should continue to be wary of bank derivative activities. I believe Congress should, in fact, mandate improved disclosure.

The Committee is grateful for each agency's hard work and

participation in today's hearing and I welcome our witnesses.

STATEMENT BY
REPRESENTATIVE JAMES A. LEACH
Before the Committee on Banking, Finance and Urban Affairs
Hearing on Derivatives
October 28, 1993

Thank you, Mr. Chairman. I want to commend you on calling these hearings today on this new and challenging issue facing the Banking Committee.

In analyzing the public policy concerns related to derivatives, legislators and regulators have an obligation to look at a number of questions, including the following:

1. What are adequate capital, accounting and disclosure standards for derivative products?

2. Is there adequate coordination between U.S. and foreign regulators?

3. Are there unique issues regarding the payments, clearing and settlement systems related to derivatives?

4. What are the benefits realized by users of derivatives for risk-management purposes?

5. Do dealers and end-users of derivatives have adequate internal controls?

6. Are there adequate protection in place to protect unsophisticated end-users?

7. How extensively are derivatives used for purposes of speculation and what should be the role of speculators?

8. What is the level of systemic risk posed by derivatives?

In examining sophisticated financial products such as derivatives, it is necessary to begin with the question of what is the role of government in legislating or regulating these products. Derivatives pose an interesting conundrum in that the area may be too sophisticated for a Congress of generalists to deal with legislatively. However, this does not mean that legislators should not expect sophistication from those parts of the Executive branch charged with overseeing the financial markets. The role of any legislation addressing derivatives, if deemed necessary, should be based on an instinct for which Capitol Hill is not noted -- temperate modesty. When confronted with an issue beyond the background and realm of understanding of most legislators, it is crucial that, with or without new legislation, responsibility for understanding and, if necessary, constraining derivatives markets be posited in appropriate parts of the Executive and/or Federal Reserve Board. In particular, as with the Basle Accord, the regulators, most likely the Fed, should attempt to establish international standards comparable to American practices or for America to adopt standards developed for use elsewhere if such are more responsible than our own.

When we talk of derivative instruments, policymakers must be careful to understand the broad array of products and services that are subsumed under this term. For example, the ratings agencies assign widely varying levels of credit risk to different products which are all considered derivative instruments. Commodity or equity contracts, currency swaps, currency options, currency futures or forwards, interest rate swaps, interest rate options and interest rate futures or forwards represent different types of derivative products all with an entirely separate risk factor. This highlights the sophistication in the market and also highlights the problems that policymakers may confront as they consider the need to supervise this market. It also demonstrates the level of complexity in the market that would make overly intrusive legislation in this area difficult, with a reasonable likelihood that it could miss the mark or prove counter-productive. A legislative and possibly legislated call for broad regulatory vigilance may be merited, but specificity in Congressional standard setting would appear to be unrealistically imprudent.

In examining the different types of derivative instruments, it is important to acknowledge the benefits that derivative products provide as a risk management tool for both financial and non-financial firms. By allowing companies to better manage the risk on their balance sheets, the prudent use of derivatives helps market participants guard against market volatility, thus providing a more stable environment for job creation. In particular, prudential use of derivatives products insulates companies from volatile interest rate and foreign currency exposures.

In addition, the lower cost of funds made possible by the growing use of derivative instruments has provided more affordable housing and cheaper student loans while decreasing taxpayer exposure

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at government sponsored enterprises such as Fannie Mae, Freddie Mac and Sallie Mae. In fact, some wonder why the U.S. Government does not take advantage of these products to lower its funding costs and thereby reduce the budget deficit. Sovereigns throughout the industrialized world use sophisticated financial techniques, including derivatives, for more efficient management of their financial needs to the direct benefit of their taxpayers. Although risks exist in the speculative use of derivatives as evidenced by Malaysia's wanton loss of its government surplus, a strong case can be made that for hedging purposes, greater use of derivatives should be contemplated by the U.S. Government. In fact, the U.S. Treasury today may be assuming a greater risk in its current efforts to shorten maturities of U.S. borrowing, than it would be in using derivative products for financial management purposes.

Here, statistics contained in the recently published Group of 30 report concerning the levels of counterparty credit losses experienced by swap dealers are instructive. According to statistics contained in Appendix A of the Group of 30 report, only $358 million in counterparty losses to swap dealers were reported over a 10 year period. This is a very modest figure, particularly when the fact is taken into account that nearly half of those losses came from a single set of transactions with U.K. local authorities. The entire amount of counterparty losses for the 10 year period would only amount to a mid-level credit loss at one of the many S&Ls for which Congress has already appropriated over $100 billion in loss funds. The low level of these losses gives some comfort that extensive risk management constraints have been put in place in the private sector. However, all parties must recognize that the past is not always a guide to the future, especially when a relatively new market explodes in size. Hence, regulators have an obligation to stay on guard as this marketplace expands in a time of unprecedented economic uncertainties.

While derivatives make up only a small fraction of the trading activities at insured financial institutions, and while derivative products often serve a useful role in reducing rather than increasing institutional risk, the potential exists that these products can also be used for speculative activities. There is no escaping the circumstance that derivative activities in the '90's must be examined in the context of the decade of the '80's where America over-leveraged itself with junk bonds, junk real estate and junk S&Ls of its own making and junk debt of LDC manufacture.

The public sector must recognize what is at issue and the private sector must realize the dangers. As someone who represents an agricultural constituency, which includes some of the most sophisticated agri-businesses in the world, I would stress that no one knows better than the farmer the fine line between hedging and speculating and the ease with which this line can be crossed.

Human nature being what it is, the prospect of destabilizing speculation in certain types of these products cannot be ruled out. Financial markets and the risks involved change rapidly. New products are introduced every day and it is often difficult for private sector participants as well as policymakers in government to judge adequately new risks. Currency markets, for instance, which have been such a source of money center bank profitability in recent years, could become more problematic if new, less-sophisticated entrants attempt to play leveraged games with other peoples' money. It is crucial, at a minimum, that regulators assure that the 1980's S&L circumstance, where profit was privatized and loss socialized, not be allowed to repeat itself in federally insured financial institutions.

In recent years the near perfect falling interest rate macro-economic environment has produced record profits from traditional lending for most community banks. However, because of certain credit problems and other competitive factors, money center institutions have had difficulty turning a profit in traditional banking areas, but have found new profit sources in currency trading and other areas historically considered the province of investment banks. While community banks pay taxes to our government, money center banks appear to have figured out how to tax foreign governments. When foreign governments, a la the British, put pride above market forces, private sector money managers not unnaturally take advantage of circumstance. But when candy is taken from children one day, the possibility political kids may unite and rebel the next cannot be ruled out.

In the derivatives arena there is also a problem of new kids on the block. If problems develop in the derivatives marketplace, it is a good bet that they will be less likely to stem from the major firms operating in the mainstream, than from firms that are new entrants or operating at the fringes of this market. Any regulation in the derivatives area must be premised on the assumption that all market participants are not equal in sophistication or integrity and that distinctions must inevitably be made between prudential and less prudential actors. Just as well-run, well-capitalized financial institutions have a powerful case for considerable deregulation today, poorly run, poorly capitalized institutions demand significant, if not draconian oversight.

Hence, regulators must be extremely discerning in their supervision of derivatives. While not inherently de-stabilizing, derivatives provide ways of either leveraging or de-leveraging financial institutions. One institution's hedge may be another's speculation. In hindsight it is clear that in a rising interest rate market, derivative products would have been particularly useful for S&Ls during the late '70's and early '80's to hedge against interest rate risk. Such a use of derivatives as a financial management tool could have saved the taxpayer significant sums of money.

Alternatively, over-use or mis-use of derivatives when markets turn can cause market participants to get into trouble. Questions still persist related to the case of Franklin Savings in Kansas. No S&L at the time put more effort into devising hedging tools. As the court case showed, it was extremely difficult to assess who was right. Management contended its techniques were simply too sophisticated for the government to understand. The government, on the other hand, maintained that

whether intended or not, Franklin was involved in imprudent speculation to the detriment of the taxpayer. Merits of the legal circumstance aside, the Franklin case underscores the need for industry and regulators to share on a timely basis their concerns, and for risk management education to be a mutual responsibility.

The use of derivative instruments must be weighted from a policy perspective in terms of systemic as well as institutional risk, especially as such risk may relate to the federally insured deposit system.

In examining the risks posed by derivative instruments, three issues stand out; capital, accounting, and disclosure. Of these three issues, capital would appear to be the most important factor. Capital is the cushion that protects a firm from credit and market risk. For an insured institution, capital represents the best protection for the taxpayer from the risks inherent in the marketplace.

With this in mind, it is nevertheless not an easy task to determine the amount of capital that should be allocated by a bank for purposes of its derivative business. The new proposed BIS capital standards would take into account netting and apply separate standards for interest rate and market risks.

I would caution, however, that it may be a mistake to view new interest rate and market risk standards as an adequate substitute for a strong leverage requirement. A strong leverage ratio remains the most important protection for taxpayers against risk in the financial system. It also remains the fairest way to constrain competitive growth within the banking sector. One of the least analyzed parts of the American S&L expansion in the 1980's was the degree to which lack of attention to capital standards caused disproportionate deposit growth in certain institutions in a certain industry in certain parts of the country. Attention to leverage ratios is not only important in assessing taxpayer risk, but also for competitive equity, and regional and industrial credit allocation. Further research must be encouraged related to the issue of capital standards for derivatives, recognizing that public sector judgements may not always coincide with private sector recommendations

Concerning accounting and disclosure standards, efforts should be made to seek greater harmonization of international standards. Greater transparency is critical to the integrity of our financial markets.

One final area for supervisory concern that is often overlooked is the question of the legal risk involved in derivatives activities. Legal risk is currently a wild-card in the system and, as evidenced by the case of U.K. authorities in Hammersmith and Fulham, one that is unpredictable even in developed societies. Until the goal of harmonized international standards is reached, regulators must be especially sensitive to this potential problem area.

In dealing with supervisory standards for capital, accounting, and disclosure, legislators have little choice but to rely rather heavily on the judgment of regulatory agencies. This leads to one of the least emphasized but most pressing challenges of government in a modern world--the need for careful attention to quality control in appointments. In general, the private sector, because of incentive motivations, is much smarter with money than the public sector. This is why it is particularly important to have people at government agencies with proven expertise. The government cannot be run by campaign managers, particularly at organizations that demand sophisticated knowledge such as the financial regulatory agencies. Appointments to these agencies must be made based on merit and not as a reflection of political indebtedness by a candidate to an individual or industry group.

Nothing underscores the need for a government of meritocracy more than the challenges the Executive branch faces in regulating products such as derivatives. The best and the brightest may make mistakes, but generally they will be less often with less devastating impact.

Sophisticated financial products pose a particular challenge to bank regulators such as the Federal Reserve that have been rightfully forceful in guarding their independence. Any failure to supervise prudentially federally insured institutions which leads to another financial debacle for the taxpayer would inevitably force Congress to re-address structures. One needs to look no further that the old Federal Home Loan Bank Board to see what happens to an independent agency that fails in its regulatory responsibilities. The only thing more dangerous than a Congress faced with a problem over its head is a Congress asked to correct a problem exacerbated by people who should have known better.

Derivatives also underscore the need for the government to work with industry groups to monitor complex financial products. While the history of industry self-regulation has not been overly impressive, clearly to date, in the derivatives area, the private sector is leading the public, not only in the development of new market instruments, but with techniques to manage and constrain risk. Care, however, must be taken to insure that we not have a least common denominator approach taken to regulation which might be adequate for one kind of institution in one time frame. Tomorrow's market circumstances and market participants may not be the same as today's.

Thank you Mr. Chairman and I look forward to hearing the testimony of today's witnesses.

-- 30 --

MAURICE D. HINCHEY
26TH DISTRICT, NEW YORK

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STATEMENT OF CONGRESSMAN
MAURICE D. HINCHEY

Before the House Banking, Finance,
& Urban Affairs Committee

October 28, 1993

Mr. Chairman, thank you very much for holding this valuable hearing today. This hearing on derivatives is an important opportunity for the Committee to familiarize itself with these financial products, and the potential risks involved.

Frankly, Mr. Chairman, I am quite concerned about derivatives. Throughout our existence, mankind has always sought to protect himself by instinctively fearing the unknown. It seems that these financial instruments remain unknown to Capitol Hill, and that therefore we should be very cautious about them. It is troubling to me that few outside the trading desks of Wall Street comprehend these instruments despite the fact that trillions of dollars are being invested in this market.

One of our most important duties on this committee is to ensure the safety and soundness of our banking system and our financial markets. These are the building blocks of our economy, and it is essential that they remain both stable and healthy. In 1987, Wall Street was shaken by a stock market downturn that would have spelled economic disaster were it not for careful crisis management and outside intervention. This fiasco should serve as a warning to educate ourselves about any potentially significant risks to the stability of our financial markets.

The federal government must step up its efforts to monitor derivatives activities. At a minimum, I believe that an interagency task force should be immediately created to assess these risks and issue recommendations and strict guidelines that protect the government and the taxpayer from potential liability in this area. The recent Office of Comptroller of the Currency report should be a good starting point for further work in this area.

PRINTED ON RECYCLED PAPER

Mr. Chairman, we must be proactive on this issue. Surely, we do not want see a repeat of the savings and loan ordeal. This was a $200 billion mistake that could have been contained by early action by the Congress and the Administration. Let's make sure that we are taking the appropriate steps now to protect the taxpayer from being forced to rescue the financial industry from itself.

Mr. Chairman, thank you again for your leadership on this issue. I ask unanimous consent to submit for the record an article from today's Washington Post entitled "Some Industry Executives See Danger of Derivatives Causing 'Meltdown.'" I hope that my colleagues will take the time to read it.

Some Industry Executives See Danger of Derivatives Causing 'Meltdown'

By Brett D. Fromson
Washington Post Staff Writer

NEW YORK—Derivatives trading could cause the next meltdown on Wall Street, according to some investors and industry executives.

While industry studies show that the few large problems caused by derivatives have been manageable, executives at some large dealers say they are concerned that some players could be badly hurt.

Some players already have been hurt. Last February, Royal Dutch/Shell Group disclosed that it had lost $1 billion in unauthorized trading in derivatives, according to an industry consultant, Ezra Zafk of Falls Village, Conn. This is the biggest known loss in derivatives trading.

In 1989, the finance department of Shell's Japanese affiliate bought derivative contracts to bet that the dollar would rise against the Japanese yen. The department bought a massive amount of contracts that obligated Shell to buy dollars at 145 yen per dollar. In the next four years the dollar fell to about 120 yen. Shell later had to buy the dollars at 145 yen and sell them in the spot market for a lot less.

Some Wall Street executives point out that customers far less knowledgeable than Shell are in the market and are vulnerable to big setbacks. What happens, they ask, if a customer makes a big bet and loses, but then cannot pay up? In such a situation, a dealer might face a bankrupt customer that could not make good on its obligation. And that in turn might cause large losses for the dealer.

Warnings about derivatives have been sounded by Securities and Exchange Commission Chairman Arthur Levitt and by E. Gerald Corrigan, former president of the New York Federal Reserve Bank. Federal Reserve Board Chairman Alan Greenspan said in August that it "is by no means clear" whether derivatives have "increased or decreased the inherent stability of the financial system."

Some Wall Street experts do not accept the derivative industry's argument that a major accident is highly unlikely because the market is populated by sophisticated dealers and customers. "The same argument could have been made about virtually every aggressive financial program of the past 40 years," said Mabon Securities Corp. chief economist Paul J. Isaac. "That hasn't kept a bunch of large financial institutions from walking into lampposts at a fairly high rate of speed."

Isaac said he is certain that a large derivatives dealer will fail.

What happens if a major dealer suddenly finds that it owes customers hundreds of millions of dollars and cannot make good on contracts it sold them?

The dealer might try to save itself by dumping stocks and bonds, which could lead other dealers to sell heavily to protect themselves. This is referred to by Wall Streeters as the "meltdown scenario."

In a market crash, the dealers are not without protections, of course. They would turn to traders such as Peter Thomas at Salomon Brothers Inc., whose job it is to hedge the firm's derivative commitments. The more share prices fell, the more Thomas would sell stocks to raise cash. This selling could, of course, exacerbate a stock market decline.

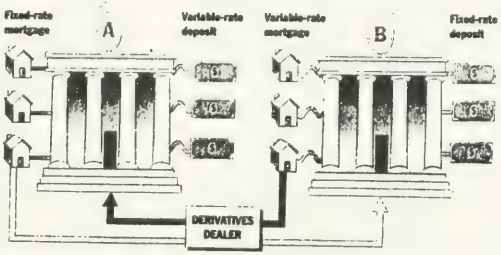
When asked about the chances of a derivatives-driven meltdown soon, people on Wall Street lay odds as high as 1 in 3 and as low as 1 in 100.

The dealers say that the risk of a meltdown is negligible.

"I have a tough time conceiving of any event that would make derivatives the culprit of something that really crashed the system," said Joseph Bauman, chairman of the International Swaps and Derivatives Association, the dealers' trade and lobbying arm.

HOW ONE DERIVATIVE WORKS

1 Bank A has made $100 million in fixed-rate mortgage loans to homeowners. It also has deposits of $100 million on which it pays depositors a variable rate of interest. The bank is worried that interest rates may go up, which would require it to pay depositors more than it earns from the mortgages, creating a loss.



2 Bank B has $100 million of mortgages with floating interest rates. It has $100 million of certificates of deposit on which it pays a fixed rate of interest. It is concerned that interest rates may fall. In that case, the income the bank would receive on its mortgage portfolio would be insufficient to pay the interest rate it promised its CD customers, causing a loss.

3 The two banks arrange a swap. Bank A promises to pay Bank B the fixed income from its mortgage portfolio, and Bank B promises to give Bank A the variable income stream from its mortgages. This protects both against losses. The derivatives dealer who brought them together receives a fee for arranging the swap.

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OPENING STATEMENT

Committee on Banking, Finance and Urban Affairs

Hearing on Derivative Products
October 28, 1993

Thank you Mr. Chairman. I am very grateful to you for scheduling this timely hearing on such a complicated subject.

I doubt that any aspect of the financial market has attracted as much attention lately as the derivative market. The speed with which this market has developed and the enormous sums of money involved have rightly attracted the attention of banking regulators and of this Committee.

While I am no fan of unnecessary government regulation of the capital markets, it will be impossible for those of us in Congress to properly assess the risk of derivative products without these hearings.

BY CORI WELLS BRAUN FOR THE WASHINGTON POST

Jonathan Sandelman on the Salomon Brothers trading floor, where he makes millions overseeing the firm's derivatives operations.

Wall Street's Risky Bets

'Derivatives' Are Popular, Profitable And to Many a Big Danger to Markets

By Brett D. Fromson
Washington Post Staff Writer

NEW YORK—Looking like Huck Finn in French cuffs, freckle-faced Jonathan Sandelman, 32, strode through the vast Salomon Brothers Inc. stock trading floor urging his traders, salespeople and computer jocks to go, go, go.

"I love it," said the young Salomon managing director. "I gotta live this. I don't sleep at night. . . . Are my eyes still bloodshot?"

As Sandelman stepped on the trading floor, his 20- and 30-year-old salespeople approached him like "A" students surrounding their teacher, and described the latest investments cooked up by Salomon's computer analysts.

One of their recent ideas was to create an imaginary basket of airline stocks that included American, United and Delta. Salomon offered customers a contract guaranteeing them today's prices on the stocks for the next six months, even though they didn't actually own the shares.

If the stocks fell, Salomon would pay the customers the amount of the decline. If the stocks rose, Salomon would not have to pay the customers anything. In either case, the firm would receive a substantial fee for the transaction.

The investments that Sandel-

See DERIVATIVES, A28, Col. 1

DERIVATIVES, From A1

man and his staff sell are customized contracts known as derivatives. They are called derivatives because their values rise and fall with those of specific stocks, bonds, commodities or currencies from which they are derived, such as the stocks of American, United and Delta.

Derivatives are the hottest, most profitable item on Wall Street since junk bonds. An estimated $4 trillion to $8 trillion of such deals are outstanding, and the total is growing rapidly, producing fat profits from fees for the firms that arrange the transactions and big salaries for their traders.

Some investment executives and regulators worry that because big banks, corporations, mutual funds and pension funds reach these deals in private, derivatives create an unknown risk to the financial markets. [Details, Page A29.] The House Banking Committee will hold a hearing today to examine the potential risks derivatives pose to the banking system.

Executive recruiters said it is not unusual for a smart young derivatives trader to be paid $500,000 to $1 million per year. According to one headhunter on Wall Street, someone with Sandelman's position should make on average $2 million to $3 million a year.

The derivatives business is something like rotisserie baseball, the armchair sport in which participants pretend to be managers of major league teams. Winning and losing in the imaginary universe of rotisserie baseball depends on how big-league players pitch and hit in real life.

In the derivatives game, the participants pretend to be owners of publicly traded securities. They make or lose money depending on how the price of the real-life securities fluctuate.

The players use derivatives either to speculate or to hedge.

A pension fund, for example, might speculate on a group of European stocks by purchasing a derivative contract that pays off if those stocks go up in price. In that case, the party that sold the derivative contract—a European investment bank, say—is obligated to pay the pension fund the increased value of the shares. The investment bank gets a fee for taking on the obligation.

A firm that wants to hedge—protect itself against large losses—also can use derivatives. A bank that has too many fixed-rate loans may swap the payments from its customers with another bank that has too many variable-rate loans. The trade brings their income from the loans in line with what each pays its depositors.

Dealers Make Big Profits on New Contracts

DERIVATIVES, From A28

Derivative contracts on stocks are especially popular because they provide a relatively cheap way to place financial bets, compared with buying or selling shares on exchanges.

Buying $100 million of stock on an exchange generally requires the customer to put up at least $50 million in cash. But for $10 million, a company could make a $100 million bet with a derivatives dealer that a group of stocks will rise or fall in price.

The large fees have made the derivatives business lucrative for dealers such as American International Group Inc, a large U.S. property and casualty insurance company. AIG's derivatives subsidiary earned $1.4 billion for the parent company from the third quarter of 1987 through the first quarter of 1993, according to internal company information. It employed about 93 people, which means that profits totaled $15 million per employee.

The dealers' big profits explain why young derivative traders and salespeople are among the best-paid people on Wall Street.

When asked about compensation in the derivatives business at Salomon, Sandelman declined to comment.

The former head of AIG's subsidiary, Howard B. Sosin, owned 20 percent of the operation and was entitled to a fifth of its profits, according to industry sources. Internal company documents show the derivatives unit earned $340 million last year, which would have made his take $68 million. A secretary for Sosin said he would not comment.

Unlike stock market investing, derivatives are a "zero-sum" game, meaning that what one side wins, someone else must lose.

Salomon's sale of $10 million of airline derivatives provides an example. At the moment Salomon takes the customer's bet that airline stocks will fall in price, the dealer is on the hook. If airline shares decline, Salomon must fulfill its contractual obligation to pay off on the bet it has sold the customer. It loses what its customers win, not counting its fee.

Dealers such as Salomon have ways to protect themselves against paying off on too many losing bets. Salomon might locate another customer that wants to bet the opposite way—that airline stocks are rising.

Or the firm could sell shares of the airlines when the deal is struck. That way Salomon would have the cash available to pay the customer if airline stocks decline and Salomon had to pay off on the derivative contract.

But establishing a full reserve is expensive for the dealer. Its money is tied up for the life of the derivative contract.

That is why dealers do not typically hedge the entire amount of the deals, but only a small portion. If the bet goes against the dealer—if airline stock prices begin to fall—Salomon would increase its hedge. The more airline stock prices decline, the more shares Salomon would plan on selling to raise the cash it needs to pay off the customer.

On Wall Street, this process is known as "dynamic hedging." It is a tricky procedure; the dealer must adjust its hedge constantly to keep in step with movements in the stock market.

A dealer such as Salomon has sophisticated computer models that tell its traders which shares must be bought and sold to hedge the firm's various derivative obligations.

The people who design these models are the "quants"—quantitative analysts who have doctoral degrees in science or mathematics. Sandelman has a dozen or so quants in a room just off the trading floor.

Sandelman's trader responsible for keeping the firm hedged is Peter Thomas, 36, who at times leans so far into the four computer screens that surround him that he looks as if he is about to fall into them. He's "very talented, very focused," Sandelman said.

In partnership with a young mathematician who sits in the hushed room off the trading floor, Thomas is responsible for hedging billions of dollars of derivative commitments made by Salomon.

Based on historical market data, Salomon's proprietary computer models calculate the hedge needed at any moment to protect the firm. If the market becomes wilder than expected, the computer will tell Thomas to sell or buy more shares.

On a day when stocks were rising, Thomas's computer screen flashed signals indicating that he should buy specific stocks that will offset the firm's risks in derivative positions. Salomon had bet some of its customers that certain stocks would not go up, and must profit itself when they rise so that it can pay off its bets without suffering a loss.

Thomas shouted in a high-pitched voice to a nearby trader, "Buy 20 Apple," by which he meant 20,000 shares of Apple Computer Inc. Within seconds he added, "Buy four G's Microsoft," meaning 4,000 shares of Microsoft. And then: "Nordstrom, six G's," which is an order to buy 6,000 shares of the retailer's stock.

"It's less frenzied than usual; the markets aren't very volatile," he said with the confidence of a young trader making money.

There is one critical difference between rotisserie baseball and derivative trading, however. Those who play rotisserie baseball have no impact on the real major leagues, but people who trade derivatives can make decisions that are felt in the financial markets.

For example, if one of the banks that swapped interest rates had so many derivative commitments that it was unable to keep its end of the bargain, the default could ripple through the banking system and global securities markets. What if it caused a crisis of confidence among investors concerned about the health of any financial institution heavily involved in derivatives? The possibility of such a panic worries some Wall Street executives and government officials.

In the past, the bulk of derivatives trading took place on regulated public markets where investors could buy and sell standardized options and futures contracts. These contracts give investors the right to buy or sell a security at a set price sometime in the future. The exchange guaranteed that the contract would be honored.

But today about half the derivatives trades occur off the exchanges. They are individually tailored to meet the special needs of each customer, and usually are created by the dealers in privately negotiated transactions. The securities and parties involved in these deals can span nations and markets.

Because the customized derivatives are not subject to the scrutiny of regulators, no one really knows who does business with whom, or the nature of the agreements. Usually, U.S. companies show these transactions only in footnotes in annual financial reports to the public.

Many of the nation's leading corporations are big purchasers of derivatives. They include General Electric Co., Ford Motor Co., International Business Machines Corp., Sears, Roebuck and Co., General Motors Corp., Chrysler Corp. and Dow Chemical Co., according to Joe Kolman, editor of Derivatives Strategy & Tactics, an industry newsletter.

Institutional investors such as mutual funds and pension funds use derivatives to hedge unwanted risks or make big bets to enhance their investment gains.

The biggest dealers are the largest brokerages, commercial banks and insurance companies. In 1992, J.P. Morgan & Co., the parent of Morgan Guaranty Trust Co., generated trading revenue of about $1 billion, largely from derivatives.

Wall Street is selling derivative contracts on every class of security. A utility such as Potomac Electric Power Co., for example, might want a contract allowing it to buy crude This would lessen the impact of supply interruptions that could drive prices higher.

A derivatives dealer could match Pepco with an oil supplier that is worried about a decline in prices. The supplier would guarantee Pepco today's price for a specific time period, which could be as long as 20 years.

If the dealer does not have another customer willing to take the other side of the transaction, it would guarantee the price itself. Either way, the dealer collects a fee for arranging the transaction.

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FOR IMMEDIATE RELEASE

WASHINGTON, DC, October 8, 1993 --- Calling for a full examination of the risks involved in banks' derivatives activities, House Banking Committee Chairman Henry B. Gonzalez today announced the first Committee hearing on derivatives products, **Thursday, October 28, 1993, at 10 a.m. in Room 2128 Rayburn.**

"The aggregate credit exposure to the U.S. banking industry from derivative holdings is in the neighborhood of $100-$200 billion," Chairman Gonzalez said. "The Banking Committee and the regulatory agencies must unwind this mystery called the derivatives market because the ultimate bank insurers -- the American taxpayers -- deserve to know what they are underwriting."

Derivative products are contracts whose value derives from the price of an underlying asset, rate or index.

The Banking Committee Chairman said the four federal bank regulators will testify about their efforts to oversee banks' derivatives activities. Major questions will include:

- Is the bank supervisory process adequate to identify and address derivative risk?

- Are banks using derivatives to engage in casino-like gambling activities?

- Are banks being required to set aside adequate capital to cover potential losses incurred in derivative activities?

- Would the deposit insurance fund be better protected by moving derivatives out of the bank and into a subsidiary?

Mr. Gonzalez said he does not necessarily want to restrict banks' derivatives activities. "Derivatives are an essential feature of a market economy, and generally help an individual institution minimize risk and increase profitability," he said.

"However, what is good for one bank may not be good for all of them. When the whole industry touted loans to Lesser Developed Countries (LDCs), for Leveraged Buyouts, and on speculative real estate as the salvation for their profits, many banks failed. I do not want to see that same shortsightedness rear its ugly head under the guise of derivatives. This may be a market some can use to great advantage -- but great profits also entail great risks. We need to understand and control these risks," he said.

Witness List - Hearing on the Safety and Soundness of Bank Derivatives Activities

October 28, 1993
Room 2129 Rayburn Building
10:00 a.m.

Panel #1 - Regulatory Opinions

Mr. Eugene A. Ludwig, Comptroller, Office of the Comptroller of the Currency (OCC)
Ms. Susan M. Phillips, Member, Board of Governors of the Federal Reserve System
Mr. Jonathan Fiechter, Acting Director, Office of Thrift Supervision
Mr. Andrew Hove, Acting Director, Federal Deposit Insurance Corporation
Ms. Sheila Bair, Acting Chairman, Commodity Futures Trading Commission
Mr. J. Carter Beese, Commissioner, U.S. Securities Exchange Commission

Panel #2 - Other Perspectives on Bank Derivative Activities

Mr. Martin Mayer, Author
Mr. Mark Brikell, Vice-President, J.P. Morgan, representing the Group of Thirty
Mr. David S. Berry, Director of Research, Keefe, Bruyette & Woods
Mr. Clifford Griep, Executive Director, Standard & Poor's

PANEL NO. 1

Invitation Letters, Written Statements, and Answers to Invitation Questions

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U.S. HOUSE OF REPRESENTATIVES

COMMITTEE ON BANKING, FINANCE AND URBAN AFFAIRS

ONE HUNDRED THIRD CONGRESS

2129 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-6050

October 5, 1993,

Honorable Andrew Hove
Acting Chairman
Federal Deposit Insurance Corporation (FDIC)
550 17th Street, N.W.
Washington, D.C. 20429

Dear Mr. Hove:

On October 28, 1993 at 10:00 a.m., the Committee on Banking, Finance and Urban Affairs will hold a hearing to examine the safety and soundness issues associated with bank derivative activities. You are respectfully invited to testify at the hearing.

So that the Committee may better understand the various safety and soundness issues involving bank derivatives activities, please work with the Federal Reserve, the Office of Thrift Supervision (OTS), and the Office of the Comptroller of the Currency to provide written answers to the following questions by the close of business October 26, 1993.

A. Regulation and Supervision

1. Please define and explain the systemic risks associated with bank derivatives activities? To what extent are the deposit insurance funds at risk from bank or S&L derivative activities?
2. Please define and explain the risks associated with individual financial institution involvement in derivative activities.
3. What steps has your agency taken to ensure that financial institution derivative activities are conducted in a safe and sound manner?
4. Do current international and domestic capital standards adequately reflect the risks associated with financial institution derivative activities?
5. Please summarize your agency's strategy for supervising financial institution derivative product activities?

6. Provide a brief overview of the training regime available to examiners engaged in evaluating derivatives related activities? How many examiners are trained to supervise derivative activities? What steps has FDIC taken to ensure examiners are properly trained to supervise derivative activities? Is there a separate "derivatives" examiner corps at the FDIC?
7. To what extent does our multi-layered bank regulatory system complicate efforts to supervise derivatives activities at federally insured depository institutions? Would a single bank regulatory agency improve oversight and supervision of bank derivatives activities? Please comment on Comptroller Ludwig's call for the creation of an interagency task force on derivatives.
8. Does your agency support additional financial reporting requirements (e.g. credit exposure, replacement cost exposure, etc.) related to derivatives information contained in financial institution financial statements? Please explain.
9. Does your agency support changing international accounting standards to reflect more standardized reporting of derivatives information contained in financial statements? Please explain.
10. Are financial institution risk management systems adequate to address the risks of derivatives activities? Please differentiate between the large, well established dealers versus new entrants to the derivatives market. Is your agency developing standardized guidelines for bank risk management systems?
11. Does your agency require senior managers and board members to pass examinations testing their competence to manage the risks of derivatives activities?
12. Should financial institutions have at least two directors that have direct experience in managing the risks associated with derivatives activities?
13. Under what scenario(s) could an individual state chartered bank fail as a result of derivatives-related activities? What catastrophes in the markets could cause a derivatives-related bank failure? Are banks required to formulate/simulate plans for such catastrophes?

B. Bank Derivatives Activity

1. What percentage of derivatives products are provided by state chartered banks (i.e. what is state chartered bank market share)?
2. Please provide a list of the top 25 state chartered member banks by the amount of their derivatives exposure. Break the information down by type of derivative product, and identify of the state chartered banks that are considered dealers?

C. Concentration

1. What are the pro's and con's related to the concentration of bank derivatives activities in a handful of large money center banks?
2. For each the ten largest state chartered bank derivatives dealers, indicate the credit exposure related to derivatives as a percentage of the banks capital.
3. Does your agency have defined criteria that must be met before a state chartered bank can offer derivative products? Do state chartered banks need to notify your agency prior to becoming a dealer in derivative products?

D. Speculation

1. How does your agency define and identify speculation in derivative products activities at state chartered banks? Are there any rules or regulations involving bank speculation activities using derivative products?
2. What percentage of state chartered bank derivative transactions are related to a) market making functions? b) speculation? c) risk arbitrage?
3. To what extent do state chartered banks enter into derivatives contracts to hedge or square positions on their own balance sheets?
4. What percentage of state chartered bank derivatives transactions are entered into with a) other market makers? b) financial versus nonfinancial end-users? c) existing bank customers? d) for the bank's proprietary trading purposes?
5. For the top derivative dealers, how important is income from derivative-related activities?

E. Separately Capitalized Subsidiaries

1. What are the pro's and con's of requiring banks to establish separately capitalized subsidiaries to engage in derivatives activities?
2. In providing derivatives products, to what extent does deposit insurance provide banks with an advantage or disadvantage over nonbank competitors?

Please provide answers to the following questions by the close of business, November 26, 1993.

A. Separately Capitalized Subsidiaries

1. Does the FDIC currently encourage or discourage state chartered banks from setting up separately capitalized subsidiaries to engage in derivatives-related activities?

2. How does a bank's credit rating affect its ability to provide derivatives products to its customers? How does a banks credit rating affect its ability to perform market making functions in derivatives products?

B. Over-the-Counter (OTC) Versus Organized Exchange

1. What percentage of the state chartered bank derivative transactions are arranged over-the-counter (OTC) as opposed to being arranged through an organized exchange? What percentage of bank OTC transactions are between market-makers versus OTC transactions between market-makers and their customers?
2. What are the differences in the markets, and what special supervisory issues arise as a result of the differences in the markets?
3. To what extent does your agency interface/cooperate with exchange officials associated with state chartered bank exchange related activities?
4. To what extent does your agency interface/cooperate with the Commodities Futures Trading Commission (CFTC) and the Securities Exchange Commission (SEC) related to state chartered bank derivatives activities?
5. How do the parties to a derivatives contract ensure contract performance in the OTC market?

C. Trusts

1. How many derivatives products (quantity and notional value) do dealer banks sell to their existing discretionary trust customers? nondiscretionary trust customers? What is the income from those transactions?
2. Are there any rules governing the sale of derivative products to a state chartered bank's discretionary or nondiscretionary trust customers?
3. In your opinion, is it a conflict of interest for a bank to sell derivatives products to its discretionary or nondiscretionary trust customers?

D. Trading Accounts and Chinese Walls

1. To what extent are there legal and physical barriers erected between state chartered bank proprietary trading activities and a bank's customer-related derivatives activities?
2. In trading for their own proprietary accounts, to what extent do dealer banks use information gleaned from customer-related derivatives activities?

E. Taxes

1. Please comment on the feasibility and implications of levying a tax on speculation-related derivative transactions.

Please address any other issues that will shed light on your agencies efforts to ensure that bank derivative activities are conducted in a safe and sound manner. References in the letter to the word "bank or financial institution" refer to those state chartered nonmember banks where the FDIC is the primary federal regulator. Please add additional information as desired.

You will be given 5 minutes to summarize your written remarks. Banking Committee rules require that 200 copies of your written testimony be delivered to Room 2129, Rayburn House Office Building, no later than the close of business October 26, 1993.

Thank you for your cooperation. The Committee looks forward to your testimony. With best wishes.

Sincerely,

Henry B. Gonzalez
Chairman

HBG:dk/mc

Testimony of

Andrew C. Hove, Jr.
Acting Chairman

FEDERAL DEPOSIT INSURANCE CORPORATION

On

Financial Derivatives

Before the

COMMITTEE ON BANKING, FINANCE AND URBAN AFFAIRS
UNITED STATES HOUSE OF REPRESENTATIVES

10:00 A.M.
THURSDAY, OCTOBER 28, 1993
ROOM 2128, RAYBURN HOUSE OFFICE BUILDING

INTRODUCTION

Mr. Chairman and Members of the Committee, I am pleased to have this opportunity to present the views of the Federal Deposit Insurance Corporation (FDIC) on the involvement of insured institutions in the market for financial derivatives. A detailed response to the individual questions posed in your letter of invitation has been submitted to the Committee.

The FDIC recognizes that the size, complexity and dramatic growth of this global market demands increased regulatory scrutiny and concern, and we have attempted to respond appropriately and promptly. My testimony today will discuss the management by financial institutions of risks posed by derivatives and the FDIC's supervision of these activities. For purposes of today's testimony, the discussion does not cover mortgage derivatives.

WHAT ARE FINANCIAL DERIVATIVES?

Broadly defined, a derivatives transaction is a contract whose value depends on, or derives from, the value of an underlying asset, reference rate, or index.

Financial derivatives are principally designed to transfer price, interest rate and other market risks without involving the actual holding or conveyance of balance sheet assets or liabilities. These instruments or contracts are generally stated or recognized in terms of a "notional value." The notional amount (or notional principal) is the underlying face amount of the contract on which some index, price movement, interest rate or multiple, acts in order to determine the actual cash flows to be paid or received. Notional principal amounts help determine the volume of future cash flows, but do not represent the actual amount transferred. The notional amount is not carried

on the balance sheet, hence the common reference to "off-balance sheet" instruments. The actual market value, or replacement cost, usually is a fractional portion of the notional amount.

These instruments can be divided into categories based on the nature of the underlying assets or indices that determine the contract's value. They generally fall into one of four categories:

- interest rate contracts,
- foreign exchange contracts,
- equity contracts, and
- commodity contracts.

Further, financial derivatives are either considered "exchange traded" or "over-the-counter" (OTC) products. OTC instruments are individualized agreements where contractual payments are entirely dependent on the performance of the counterparties. The OTC market for swaps contracts is the single largest off-balance sheet activity by volume. Foreign exchange trading, for example, is primarily an OTC market. Exchange traded instruments, principally futures and options, are standardized contracts with transaction settlement performed by an entity unaffiliated with either counterparty.

Exchange traded products (futures and options on futures) differ from OTC derivative instruments in several key respects. Futures exchanges require the value of each position to be reconciled to the market, or "marked-to-market," at the end of each trading day. Any change in value of the position is paid to or received from the futures exchange (through its clearing members) at the end of every day. All futures market participants are required to post a performance bond (called "initial margin") equal to a certain percentage of the standardized notional principal amount of the

contracts held. Should the value of the position fall, causing the margin account to decrease below a preset maintenance level, payment is required to bring the margin account back up to the maintenance level. These features -- daily settlement of gains and losses, the role of the exchange essentially as counterparty to all trades, and the uniform margin requirement -- significantly reduce the counterparty credit risks of exchanged traded derivatives as compared to OTC derivatives which are characterized by longer performance periods, greater potential counterparty risk, and lack of any standard margin requirement.

THE MARKET FOR FINANCIAL DERIVATIVES

Phenomenal growth in this market, largely in the last five years, has resulted in outstanding contracts numbering in the millions and totalling trillions of dollars in notional principal. The last year has seen continued growth in both the exchange traded and OTC markets. Use of all these instruments has greatly expanded as these products have developed and gained wide acceptance and as volatility in the financial markets has increased. The global market for financial derivatives has provided substantial funding, liquidity and risk management benefits to many segments of the domestic and international economy, including insured financial institutions.

The principal uses for financial derivatives are risk management, creation of advantageous funding arrangements, and revenue generation. From a risk management perspective, when used prudently, derivatives can offer managers efficient and effective methods for reducing certain risks through hedging balance sheet positions. Derivatives also may be used to alter the payment or maturity structure of available funding sources to more closely match those of a desired but unavailable source. State non-member banks using derivatives are almost entirely end-users of these products, utilizing them for risk management and funding arrangement

purposes. Finally, large banks when operating as a dealer or trading for their own accounts have been able to generate substantial incremental revenue from either fee (spread) income or from taking positions in the instruments.

MANAGING THE RISK OF FINANCIAL DERIVATIVES

For the purposes of this testimony, the principal focus is the extent and degree of involvement by state non-member banks for which the FDIC is the primary regulator. However, the FDIC studies and monitors derivative activities throughout the banking industry. Considering the growth of the market, the volume of activity at insured institutions and the potential systemic risk, these activities have importance to the FDIC as insurer of financial institutions.

The risk of individual institution involvement in financial derivatives, can be viewed much the same as any other activity presently engaged in by financial intermediaries. The principal risks -- credit, market, operational, and legal -- while packaged in more complex fashions by derivative instruments, are essentially the same as those posed by other more traditional financial activities. Credit risk is the threat of default by the counterparty to the financial contract; market risks are various price risks, principally those related to interest rate indices and currency exchange rates; and operational and legal risks are those logistical, settlement and legal issues arising from the payment of large sums of money across borders and time zones on the basis of complex contractual documents.

What makes these risks such a concern when encountered in financial derivatives is the interrelationship of these various elements, the evolving nature of these markets, and the comparative speed with which these contracts can be accumulated in an individual institution.

SYSTEMIC RISK

The interrelationship or aggregation effect gives rise to systemic risk concerns. This type of risk could result from the interaction of positions in one instrument with other positions, both in derivative products and in the underlying asset markets, and could involve both cross-border and cross-market links. Because of the increasing prevalence of these interconnecting positions, a major default or disruption may not be isolated as easily as was once the case. Interconnection risk can also be seen as the risk that a disruption by any participant or group of participants could cause difficulties elsewhere in financial markets. It has been seen in recent years that economic disruptions experienced in market segments widely separated by product, participant or geographic location, can be quickly translated to other portions of global financial markets.

Nevertheless, it is difficult to envision a realistic scenario for widespread bank failures attributable to derivative activities unless numerous broad assumptions are made. Specifically, an initial failure would have to occur at a major market participant. The failure would have to occur quickly and with little warning. The failing participant would have to have a sharply unmatched overall portfolio position which would have experienced a large adverse price change relative to the market. Finally, the contracts would be concentrated among comparatively few counterparties. This confluence of conditions could result in significant cash losses at the counterparties, and could well be exacerbated by a simultaneous loss of market liquidity.

This scenario is possible but unlikely. As the condition of a financial institution deteriorates, both market discipline and regulatory action serve to limit risk taking and participation of that institution in the derivatives markets in general. As a financial

institution's credit-worthiness decreases, counterparties usually exercise market discipline by shortening the average maturity of contracts they are willing to enter into with that institution, reducing their credit lines, requiring collateral and possibly eliminating new transactions with that institution.

As a result, it would be difficult for a bank to obtain the credit approvals from prospective counterparties necessary to put on such a large, unmatched position. This is especially true for a smaller, less sophisticated institution which might inadvertently allow such a position mismatch to occur. Moreover, once detected, it is highly unlikely that the banking agencies would permit the acceptance by any insured financial institution of an unmatched position extreme enough to place the institution at risk of failure in any foreseeable interest or exchange rate environment.

THE RISK FROM SPECULATIVE ACTIVITIES

The collapse of a single institution as a result of ill-considered, speculative or misapplied use of financial derivatives, is also unlikely. The failure of any institution of substantial size would similarly require the convergence of significant adverse events. Again, the market event would need to be sudden; the institution would have to have taken a sharply unmatched and unhedged position; and it would have to have found counterparties willing to enter into contracts with an institution having such risk characteristics. (It provides little advantage, even to speculators, to have taken the plus side of a risk position with a bank, if that bank is subsequently unable to perform under the contractual obligation.) Note that the accumulation of unbooked losses in exchange traded derivatives is limited by the daily margin variance settlement.

However, even this more modest confluence of adverse conditions assumes that bank management, counterparties, other industry participants and regulators all allowed the accumulation of dangerous levels of unmatched positions and, in analyzing

the institution's activities, ignored the basic concepts of risk diversification, sound credit underwriting and acceptable management systems.

The existence of individuals, groups or companies willing to take unmatched positions, is a fundamental part of all capital markets activities, providing liquidity, balance and reliable pricing to the marketplace. The FDIC's concern is that their activities are structured in such a manner as to pose no undue risk to the insurance funds. Our focus is on the extent of position-taking in derivative instruments by insured institutions and their agents, and what form supervision of this activity should take.

POTENTIAL IMPACT ON THE INSURANCE FUNDS

The impact of a potential failure of an institution, or even more than one institution in a systemic risk scenario, is of considerable concern to the FDIC. However, the combination of sound institution management, market forces, and appropriate regulatory supervision under existing guidelines sharply reduces the likelihood of any significant disruption in the banking industry as a result of financial derivative activities.

The relevant regulatory authorities identify adverse actions taken, and positions assumed, by an institution prior to their developing to the extent where even an unforeseen market shock could result in failure. Such actions or practices are stopped or restricted under the general authority of the supervising agency. As a result, the FDIC believes that the risk to the insurance funds posed by these activities are effectively limited.

Moreover, when the FDIC is appointed conservator or receiver, it has certain rights and remedies with respect to derivative contracts, including the right to repudiate certain contracts and limit damages. To the extent that claims under a qualified financial contract -- defined in the Federal Deposit Insurance Act to include many types of financial derivatives -- would be subject to payment, those claims would be classified as general creditor claims under the depositor preference provisions of the Omnibus Budget Reconciliation Act of 1993. Since depositors and the insurance fund have priority over general creditors, the exposure to the insurance funds from derivative activities of a failed institution may be reduced.

Any evaluation of the risks posed by derivatives to the insurance funds must be placed in the proper context. The calculation of credit exposure, or replacement cost, of outstanding contracts as a percentage of capital is not the sole measurement of potential exposure to the insurance funds. While this is a legitimate expression of the volume of this activity at a given institution, viewed in isolation it tends to overstate the actual risk of loss. Such a measurement reflects gross exposure rather than the more realistic net, or hedged position, assumed by most responsible insured financial institutions. The FDIC integrates the analysis of these measurements into the overall review of an individual institution's risk profile. In addition, the financial derivatives market is not a homogenous commodity or geographic business activity like oil or real estate which can be measured as a single concentration of risk to capital. Linked as it is to a multitude of interest rate indices, currencies, commodities and equities, the derivatives market is perhaps one of the most diversified of business activities.

SUPERVISION OF FINANCIAL DERIVATIVES BY THE FDIC

Although derivatives are becoming increasingly complex, they can all be viewed as an assemblage of forward rate agreements and options. Analysis of pricing

and risk can then be evaluated much like any other financial product in terms of the structure of anticipated cash flows and expectations of future interest rates and economic conditions.

The FDIC monitors and reviews financial derivative activity at all insured institutions. The principal means for determining the degree of risk in these activities and the appropriate supervisory response continues to be the regular examination process. In response to the potential risk exposure to insured institutions resulting from increasing involvement in this expanding market, the FDIC continues to develop and refine existing examination and supervisory guidance. The FDIC has selected and continuously trains a cadre of examination specialists in each of its eight supervisory regions, with technical guidance and support provided by the Washington Office of Capital Markets. Supplemental training in the examination of derivative instruments is provided to the field staff by these specialists and as part of ongoing examiner training in Washington. Consistent risk review and control standards are applied to the derivative activities of examined institutions.

Specifically, the FDIC expects to see reflected in the bank's board of directors' minutes, a full discussion of the costs, benefits, and especially the risks of an institution's planned or ongoing involvement in derivative activities, much the same as for any new business venture. Appropriate management personnel should prepare an executive document, in language suitable for the technical knowledge and awareness of the full board, which details the exact nature of the planned involvement and the levels of risk that can be incurred. Risk parameters should be expressed in terms of most likely and worst case scenarios, with specific board and management approvals for these levels clearly enumerated.

Examination of these activities normally includes reviews of management background, policies, practices and performance; measurement and reporting of risks and exposures; strategic goals and objectives; credit analysis; operations; profitability;

and audit coverage. The more significant the degree of the institution's involvement, the more comprehensive will be the scope of review.

Capital requirements for these activities are of critical concern and are subject to continued study, review and revision. The intent of the FDIC is to maintain an institution's capital levels commensurate with the incremental risk presented by these activities. Any nominal reduction of capital requirements, for example from the recognition of bilateral netting, would only be supported to the extent this was an appropriate recognition of actual credit risk. Moreover, any such discussion must be linked to a discussion of the need for an increase in the capital requirements for future exposure.

The FDIC has to this point been able to work within the boundaries of existing policies and procedures when conducting examinations of financial derivative activities and within the existing rules and regulations when supervising institutions participating in this market. So long as existing supervisory rules and guidelines can be broadly interpreted, routinely updated, and rigorously enforced, the FDIC believes that appropriate supervision and risk control over participation in the financial derivatives market by insured institutions can be achieved.

The FDIC continues to work closely with various domestic and international regulatory agencies to develop consistent and comprehensive standards and guidelines for derivative activity. Due to sometimes widely disparate legal, accounting and tax treatments accorded entities involved in this worldwide activity, significant work remains to be done in determining the accurate measurement and reporting of derivatives exposure for market participants. Because of the global nature of the marketplace, we consider the harmonization of accounting standards and reporting requirements on an internationally accepted basis to be critical to the future monitoring and supervision of financial derivatives activity. The FDIC intends to continue, and

expand as necessary, cooperative efforts already underway with both bank and non-bank regulators in both the domestic and international arenas.

INTER-AGENCY PARTICIPATION IN SUPERVISION OF FINANCIAL DERIVATIVES

The FDIC believes current multi-agency cooperation has not created redundancy of effort, but brings various perspectives to the supervision of derivatives activities in a useful way. The FDIC believes multi-agency efforts have largely been effective and efficient. Inter-agency coordination has optimized the commitment of individual agency resources and minimized any disruption of ongoing institution operations. We expect the same results from future cooperative examinations of major financial derivative participants.

Perhaps the most important benefit from such cooperative efforts is the review of these activities from the various perspectives brought by the different agencies. Given the somewhat distinct roles entrusted to each of the agencies, the particular risk analysis, say of the FDIC as insurer for example, could be of significant benefit in revealing the various facets of financial derivative activities. The participation, in a cooperative role, of multiple agencies provides for both efficient and objective oversight.

The recently announced interagency task force on derivatives will provide an additional forum for the FDIC, as primary regulator for state non-member banks and as insurer of financial institutions, to continue its efforts to thoroughly examine the risks and supervisory issues related to derivative activities.

CONCLUSIONS

Financial derivatives, as one of the most important and fastest growing segments of the financial services industry, warrant continued close supervisory attention and concern. The FDIC has responded by forming a cadre of examiners throughout the country specially trained in this technical area. We remain committed to ongoing cooperative efforts to provide appropriate regulatory policies, standards and guidance for financial institutions involved in this rapidly evolving market.

Financial Derivatives

Responses to Questions Posed by:

Congressman Henry B. Gonzalez, Chairman
U.S. House of Representatives
Committee on Banking, Finance, and Urban Affairs

Federal Deposit Insurance Corporation

October 26, 1993

A. Regulation and Supervision

Question A1. Please define and explain the systemic risks associated with bank derivatives activities. To what extent are the deposit insurance funds at risk from bank or S&L derivative activities?

A1. Systemic risk is defined as the risk that a disruption, at an individual firm, in a market segment or a settlement system, would result in widespread and severe difficulties at other firms, in other market segments or to the financial system as a whole. In theory, a failure-induced default on financial contract obligations by a major derivatives participant could result in actual cash losses at counterparty institutions forced to replace the defaulted contracts in the open market at disadvantageous rates or prices. Although there is no consensus regarding the level of systemic risk presented by such a scenario given the explosive growth of this market, there is some agreement that the linkage between these instruments would allow for the rapid spread of any disruption.

However, even incorporating the rapid translation of any given default or adverse market event across different institutions and markets, certain assumptions have to be made to provide a realistic scenario for widespread bank failures attributable to any systemic disruption. The initial failure would have to occur at a major market participant. The failure event would have to occur comparatively quickly and with little warning. The failing participant would have to have a sharply unmatched overall portfolio position which would have experienced a large adverse price change relative to the market. Finally, the contracts would not be widely disbursed among numerous counterparties. The confluence of these conditions could result in significant cash losses at the counterparty institutions, and could well be exacerbated by various legal uncertainties and a simultaneous loss of market liquidity.

Unfortunately, the level of systemic risk presented by a major participant default would be very difficult to quantify given the number of variables inherent in any possible scenario. As a result, the risk to the Bank Insurance Fund and the Savings Association Insurance Fund (Insurance Funds) is similarly difficult to estimate.

It is important to note in this respect, that the events enumerated, a sudden default event at a single, large institution, would have to involve the simultaneous breakdown of various internal, external and regulatory safeguards. The assumed acceptance of sharply mismatched positions, large credit concentrations, and absence of appropriate risk reporting are all practices which would be sharply criticized and quickly discontinued. Similarly, the potential failure of a settlement system should largely be detected, and the impact mitigated, by appropriate actions by bank management or regulatory authorities.

Question A2. Please define and explain the risks associated with individual financial institution involvement in derivative activities.

A2. The risks associated with the derivatives markets are market risk, market liquidity risk, interconnection or aggregation risk, credit risk, operating risk, settlement risk, and legal risk.

Market Risk: Market risk is the risk of changes in the price, value or cash flows of a derivative resulting from changes in the underlying instrument. The degree of risk involved depends primarily on two issues: the magnitude and velocity of prices changes in the underlying instrument ("volatility") and the degree to which those price changes affect the price of the derivative.

Many derivative transactions involve considerable market risk because they entail obligations to make future payments of interest amounts or foreign currency at market prices determined at the original transaction date. (However, it should be emphasized that these instruments are often used to hedge against other elements of market risk to which the bank is exposed.)

The potential exposure to market risk in the face of volatile markets was reinforced during the recent turmoil in the European currency markets, when several European currencies fluctuated sharply for several weeks as the European Community's Exchange Rate Mechanism became unstable. In that particular instance, U.S. bank participants profited. Nevertheless, that result may not always recur in the future.

Market Liquidity Risk: Market liquidity risk exists to the degree that a negotiable or assignable financial asset or off-balance sheet instrument cannot be sold rapidly at, or very close to, its full market value. Market liquidity can change gradually over time, or rapidly in times of market stress, and in some markets can vary over the course of the day. Liquidity risk has become more

important to banks in recent years as portfolios of off-balance sheet instruments have grown and the need to hedge them has increased.

Aggregation or Interconnection Risk: This risk largely results from the sophisticated manner in which positions in any one instrument may be directly or indirectly tied to a number of other positions on or off the balance sheet. These inter-connections frequently involve both cross-border and cross-market links and a wide range of individual financial instruments. Such multi-legged positions are growing rapidly -- both in size and variety -- on the books of major financial institutions. Because of the increasing prevalence of these positions, a major disruption in one market may not be isolated as easily as was once the case.

Counterparty Credit Risk: This is the same risk a bank faces when it extends a loan -- the possibility of default by a counterparty. For contracts that involve a firm commitment, such as a swap or forward rate agreement (FRA), the credit exposure to the holder is the replacement cost (current exposure) of the contract. The replacement cost is established by assessing the current market value of the contract as opposed to the value at inception. Banks monitor the replacement costs of their contracts closely, and also add an adjustment for the potential future credit exposure caused by future market movements as part of their regulatory capital calculation.

Options and option related products also have current and future potential credit exposure for the purchaser (holder), both of which concern the possibility that the writer (seller) of the option will not honor its commitment when the holder executes it. The current exposure for an option is the original cost of the option plus the cost of replacing it in the present market. The future potential exposure is the risk that the writer of the option may default upon exercise of the option, which would leave the holder exposed to the very risk the option was designed to hedge.

For firm commitments, the replacement cost is the difference between the original and current prices. Future exposure is more difficult, because it involves trying to estimate the price action of the market in the future. Generally, dealers and end users assign a maximum movement factor, from two to four percent, as the potential future exposure. The banking agencies have established a calculation for future exposure, commonly referred to as the "add-on," in the risk based capital regulations.

With respect to exchange traded instruments (futures, options, and options on futures), at the end of each trading day, or on an intra-day basis, the exchange clearinghouse marks each participant's position to market, or revalues it based on current prices. The changes in value of the positions are received from or paid to the participants each day, depending on the nature of the change in value. Additionally, all participants in exchanges are required to post a good faith or performance bond, which serves as collateral for the exchange should a participant default.

Deterioration in the credit quality of a derivatives participant restricts that institution's participation in the derivatives markets. As the condition of a financial institution deteriorates, both market discipline and regulatory action serve to limit risk taking and participation of that institution in the derivatives markets in general. As a financial institution's credit-worthiness decreases, counterparties usually exercise market discipline by shortening the average maturity of business they are willing to conduct with that institution, reducing its credit lines, requiring collateral and possibly eliminating new activity with that institution.

Operating Risk: Operating risk is the risk that inadequate internal controls, procedures or human error will result in unexpected losses. As a result of operating risk, open positions or credit exposures could develop that are in excess of limits established by senior management and the board of directors. The highly complex nature of derivative activities emphasizes the importance of operating risk. Given this complexity, there is a crucial need for banks' internal risk management and control systems to entail a similar level of sophistication. It is essential that effective lines of communication be established between banks' senior management and the management and staff of the departments that execute derivative product transactions. This communication must be two-way, so that local area management fully understands and acts within the parameters of the bank's overall risk management strategy and, perhaps more importantly, so that senior bank management is aware of the full range of risks being assumed throughout the institution.

Settlement Risk: Settlement risk entails the exposure to loss arising when an institution either pays out funds or delivers assets before it receives the proceeds called for in the contract in question and the counterparty is unable or unwilling to perform under the contract. Settlement risk can assume several forms. In foreign exchange markets, for example, the time differences between normal payment hours in different countries can expose institutions to

settlement risk. Another example of settlement risk is the exposure that occurs when delivery of definitive securities is not synchronized with payment for them.

Legal Risk: The most significant losses to date in derivative markets have resulted from legal risks. A number of participants in the swap markets suffered losses on contracts with local borough authorities in the United Kingdom when the local authorities were found to be without authority to enter into swap contracts. Although such authority generally is considered to be implied in the borrowing authority of corporate and governmental entities, some do not have specific authority regarding swap transactions, creating a risk in some circumstances that a court could find that the entity did not have the power to enter into the contract.

Another source of concern has been with regard to the enforceability of netting provisions under which payment obligations from multiple derivative transactions are netted. Master agreements with netting provisions are used as a means of reducing the overall level of credit risk to a counterparty. Where a bank has undertaken a number of contracts with a particular counterparty subject to a master agreement, the bank runs the risk that, in the event of the counterparty's failure, the receiver for the counterparty will refuse to recognize the validity of the netting provisions. In such an event, the receiver could repudiate individual contracts under which the counterparty was obligated to pay the bank, while demanding payment on those contracts on which the bank was obligated to pay the counterparty. While amendments to the Bankruptcy Code and the Federal Deposit Insurance Act, as well as the payment system risk reduction provisions of the Federal Deposit Insurance Corporation Improvement Act, have significantly reduced this risk for financial institutions in the United States, this remains a risk in dealing with non-U.S. counterparties.

These seven risk categories can be grouped into four broad categories of risk: Market Risk, which incorporates market risk, liquidity risk, and aggregation risk; Credit Risk; Operating Risk, incorporating operating risk and settlement risk; and Legal Risk.

Question A3. What steps has your agency taken to ensure that financial institution derivative activities are conducted in a safe and sound manner?

A3. The FDIC has identified the primary supervisory concerns relative to financial derivative activities for the purpose of ensuring the appropriate conduct of these activities.

- Accurate and consistent determination of risk exposure. The ability to suitably measure both credit and market risk exposure for individual institutions and for groups of institutions, is perhaps the single most important consideration for supervisory purposes. This determination is the starting point for both on and off-site examinations, and provides the ability to generate essential industry data.

- The rate at which risk exposure can accumulate in a given institution. For both exchange traded and OTC instruments, an institution can, for comparatively small cash outlays, accumulate large unbalanced positions committing it to large future negative cash flows. Moreover, with OTC products, these institutions could later find that exiting these contracts is much more costly than entry.

- Management comprehension of the risks. What is most important, is not that the individuals executing the derivative contracts understand the full nature of the risks, but that the members of the board and management responsible for setting overall risk parameters fully comprehend these risks. A principal focus of any FDIC examination of derivatives is to ensure that executive management and the board of directors have been suitably informed and made to appreciate the range of risks presented by involvement in these activities.

- Maintenance of sufficient capital reflecting off balance sheet risk.

- The particular vulnerability of smaller institutions to speculative inducement and pressures. The proliferation of derivative products and related advisory services has resulted in instances where management supervision by directors has been abdicated in favor of undue reliance on the trading acumen of various brokers, dealers or consultants. The lack of appropriate technical knowledge on the part of management, in conjunction with a paucity of relevant disclosures, is an environment fraught with such risk.

The FDIC maintains off-site monitoring data on certain aspects of these activities. (See the sample off-site Monitoring Report submitted for the Committee's record.) However, due to the fast changing nature of this marketplace, the technical complexity of the instruments and individuality of the risk profiles, the FDIC still considers the regular examination of these institutions to be the centerpiece of effective regulatory supervision and measurement of safe and sound conduct.

Examination of these activities would normally include reviews of management background, policies, practices and performance; measurement and reporting of risks and exposures; strategic goals and objectives; credit analysis; operations; profitability; and audit coverage. Naturally, the more significant the degree of the institution's involvement, the more comprehensive will be the scope and inclusions of the review. The FDIC has to this point been able to work within the boundaries of existing policies and procedures when conducting examinations of financial derivative activities and within the existing rules and regulations when regulating the institutions participating in this market.

Recognizing the potential risk exposure to insured institutions resulting from increasing involvement in this expanding market, we continue to develop and refine existing examination and supervisory guidance. So long as existing supervisory rules and guidelines can be broadly interpreted, routinely updated, and rigorously enforced, the FDIC believes that appropriate supervision and risk control over participation in the derivatives market by insured institutions can be achieved without significant additional regulations.

Question A4. Do current international and domestic capital standards adequately reflect the risks associated with financial institution derivative activities?

A4. Current capital requirements for institutions regulated by the FDIC, are embodied in Part 325 of the Rules and Regulations; specifically Submission A which details the risk based capital calculations. For Capital Adequacy purposes, derivative products are divided into two categories: Interest Rate Related Contracts (including Single Currency Interest Rate Swaps, Basis Swaps, Forward Rate Agreements, and Interest Rate Options purchased such as Caps, Floors, Collars), and Foreign Exchange Rate Related Contracts (including Cross Currency Interest Rate Swaps, Forward Foreign Exchange Contracts and Currency Options purchased).

Banks must calculate the Credit Equivalent Amount for all of these contracts, and assign the result to the appropriate risk weight category, based on the identity of the obligor or nature of the collateral. This calculation of the capital required has two components. The Present Credit Exposure portion, which is the gross replacement cost or mark to market amount of all positively valued contracts; and the potential future exposure portion (referred to as the add-on), which is a percentage of the notional value of these contracts ranging from .05% to 5% depending on the remaining maturities.

Foreign exchange rate and commodity contracts with an original maturity of 14 calendar days or less and interest rate, foreign exchange rate, or other commodity contracts traded on exchanges that require daily payment of variation margin, are not covered by the risk-based capital guidelines. Proposed revisions to the capital requirements for off balance sheet instruments and activities, are being discussed on both an interagency and international basis, but resolution may not be possible in advance of the determination of an appropriate international Interest Rate Risk (IRR) capital component.

Currently, the staff of the FDIC is working, in conjunction with other financial institution regulatory agencies, on proposed changes to the capital standards which would have the effect of recognizing bilateral netting, only when it is legally enforceable, as a basis for computing the appropriate capital levels for derivative products. We recognize that this would have the effect of lowering capital requirements on derivative products in certain situations, but only to the extent that credit risk has also been reduced. The FDIC considers the extended maturity of certain contracts of greater potential concern and we anticipate working in conjunction with certain international organizations to study the need for an increased Potential Future Exposure Capital Component.

Question A5. Please summarize your agency's strategy for supervising financial institution derivative product activities.

A5. As insurer, the FDIC monitors certain data on financial derivative activities of all insured institutions. However, the focus of our supervisory strategy remains individual examinations, which would normally include comprehensive review of financial derivative activities. These examinations are tailored to the specific institution and market environment and are adjusted in scope and focus as conditions warrant. Examination guidance and supervisory policy continue to evolve in response to the growth and direction of the industry.

The FDIC still intends to request, where practical, coordination of examinations with the other financial institution regulatory agencies for selected institutions identified as principal participants in this market or presenting supervisory concerns. The FDIC continues to work with the other agencies, accounting authorities and international regulators to develop definitive and appropriate guidance for monitoring and supervision of this area.

Question A6. ***Provide a brief overview of the training regimen available to examiners engaged in evaluating derivatives related activities. How many examiners are trained to supervise derivative activities? What steps has FDIC taken to ensure examiners are properly trained to supervise derivative activities? Is there a separate "derivatives examiner corps" at the FDIC?***

A6. The Division of Supervision (DOS) of the FDIC has allocated substantial resources to selecting and training individuals for specific involvement in the examination and supervision of capital markets activities. These individuals, currently numbering 28, are located in each of the eight DOS Regions with particular concentration in areas where insured financial institutions are most likely to utilize or encounter derivative instruments.

The training for these specialists is ongoing. Semiannual seminars are conducted covering topical and emerging issues in an attempt to evolve with the market. Reference materials prepared and distributed for these seminars contain the most recent information related to the covered subjects and serve as interim examination guidance in the absence of authoritative regulations or standards. (Applicable portions of these materials are attached as part of Submission IV.) Training of other examiners and appropriate regional office personnel is then periodically conducted by the capital markets specialists within the regions. In addition, an overview of off-balance sheet activities is provided at various stages of an examiner's career as part of the general training process. At a certain level of experience, the FDIC's entire examination force will have received detailed exposure to financial derivative instruments.

Question A7. ***To what extent does our multi-layered bank regulatory system complicate efforts to supervise derivatives activities at federally insured depository institutions? Would a single bank regulatory agency improve oversight and supervision of bank derivatives activities? Please comment on Comptroller Ludwig's call for the creation of an interagency task force on derivatives.***

A7. The term "multilayered" implies a simple redundancy of effort which the FDIC believes does not exist. Multi-agency efforts are coordinated to afford the maximum coverage of institution activities while optimizing the commitment of individual agency resources and minimizing any disruption of ongoing institution operations. In most cases, these objectives have been met. The FDIC expects that future cooperative examinations of major financial derivative participants will be equally effective.

Perhaps the most important benefit of such cooperative efforts is the review of these activities from the various perspectives brought by the different agencies. Given the somewhat distinct roles entrusted to each of the agencies, the particular risk perspective, say of the FDIC as insurer, could be of significant benefit in revealing the various facets of financial derivative activities. A more immediate issue is the increasing use of derivative instruments by subsidiary banks of a multibank holding company, where the management and supervision of these activities is largely controlled at either the holding company level or by a lead bank. In this instance, comprehensive examination and analysis of derivative activities is dependent on review of different levels in the organization which often cuts across agency responsibilities. The participation, in a cooperative role, of multiple agencies would provide for both efficient and objective oversight.

It is in this spirit of cooperation, fully recognizing the impact of financial derivatives on the banking system, the economy and the insurance funds, that the FDIC fully supports the Comptroller's proposal for an interagency task force.

Question A8. ***Does your agency support additional financial reporting requirements (e.g. credit exposure, replacement cost exposure, etc.) related to derivatives information contained in financial institution financial statements? Please explain.***

A8. The FDIC would generally be in favor of certain additional financial reporting requirements incorporating replacement cost or credit exposure information. These should not, however, be viewed as supplanting the present reporting of

notional principal amounts. The present reporting methodology, based on notional values, affords a number of advantages.

- Notional values give a measurable and consistent indication of the volume of activity for both individual institutions and industries.

- Other risk exposure (both credit and market) measurements fluctuate with rate changes and provide no reliable or consistent indication of the potential for future exposure.

- As the average range of exposure varies over time (as measured by historical loss rates for example), it is easier for off-site analysts, including regulators and central banks, to estimate overall industry trends and potential risk.

- Notional value reporting makes it more difficult for institutions to under-report their actual exposure by manipulating the complex value-calculation models. While notional principal reporting does not necessarily prevent inaccurate credit risk disclosures, comparison to peer group information should preclude institutions from reporting negligible risk totals on large portfolios of financial derivatives, and also should reveal approximate market risk positions.

The FDIC would support a limitation of additional reporting requirements to only those institutions meeting certain size or volume of activity criteria. Most state non-member bank end users of financial derivatives would not normally reflect their holdings on a replacement cost basis under current accounting practices, and would be unlikely to maintain the complex and expensive modeling capability necessary for routine updates of such information.

Question A9. ***Does your agency support changing international accounting standards to reflect more standardized reporting of derivatives information contained in financial statements? Please explain.***

A9. The FDIC would agree that the Financial Accounting Standards Board (FASB) and other international bodies responsible for setting accounting standards should, as a high priority, issue definitive guidance on reporting for financial instruments, such as derivatives. The FASB has a project on hedging which is actually part of a much larger "financial instruments" project that started in 1986. The issues involved in the accounting for derivatives are complex, far

reaching and rapidly evolving which in part explains the lengthy incubation period. The marketplace keeps developing new financial instruments and derivatives, making it difficult for any accounting standards to keep current. The FASB is understandably attempting to take a comprehensive approach rather than setting rules on an instrument-by-instrument or transaction-by-transaction basis. .

Due to sometimes widely disparate legal, accounting and tax treatments accorded entities involved in this worldwide activity, significant work remains to be done in determining the accurate measurement and reporting of derivatives exposure for market participants. Because of the global nature of the marketplace, we consider the harmonization of accounting standards and reporting requirements on an internationally accepted basis to be critical to the future monitoring and supervision of financial derivatives activity.

Question A10. Are financial institution risk management systems adequate to address the risks of derivatives activities? Please differentiate between the large, well established dealers versus new entrants to the derivatives market. Is your agency developing standardized guidelines for bank risk management systems?

A10. Risk management procedures are generally related to the measurement, monitoring, review and audit of the principal risks of financial derivatives as discussed in item A2. In this context, the methodology for controlling these risks must be viewed as part of the overall structure of the institution and furthermore can be distinctly individual. The FDIC relies upon the assessment of the individual risk control environment provided as part of the examination process. While the examination process is similar at comparable institutions, the FDIC has not yet instituted a standard risk management model to which all institutions must adhere.

Written policies and procedures are presently embodied in the Capital Markets Reference Manual. (Relevant sections and summary have been provided for the record as Submission IV.) This represents a compilation of the formal written guidance used as the basis for FDIC examination and supervision of all capital markets activities, including those related to financial derivatives. As such, it is constantly being updated and revised as necessary to reflect this evolving market. Relevant Examination and Policy Memoranda, applicable accounting literature and materials on current market trends and conditions are all incorporated as part of the manual.

State non-member bank risk management systems have generally been found appropriate for the level and extent of participation of these institutions in the financial derivatives market. The few exceptions have prompted examination criticism generally on the basis of inappropriate management understanding or control of the accepted risks. It is understood that the acceptability of the existing level of risk management systems is predicated on the involvement of these institutions as end users of financial derivatives.

No state non-member bank is presently acting as a primary dealer or market maker in financial derivatives.

Question A11. ***Does your agency require senior managers and board members to pass examinations testing their competence to manage the risks of derivatives activities?***

A11. Although the FDIC does not require that senior managers and board members pass a specific competence examination, the educational and professional backgrounds of directors and senior management are carefully scrutinized following their appointment or election. In the case of problem state non-member institutions, the appointment of any senior level officers or board members is routinely subject to prior review by the FDIC. On an ongoing basis, individual and collective performance of senior management and the board of directors is subject to close scrutiny at each FDIC examination. This evaluation incorporates findings on the control, supervision and management of financial derivative risks.

Question A12. ***Should financial institutions have at least two directors that have direct experience in managing the risks associated with derivatives activities?***

A12. The FDIC believes that it is important for each member of a bank's board of directors as well as its executive management, to be fully cognizant of the existing and proposed strategy for involvement of their bank in financial derivatives, the extent of current activities, and the potential risks to which the institution is exposed. Moreover, as in other more traditional segments of the business, while it is not essential that individual members of the board or executive management possess a detailed understanding of this highly complex area, it is incumbent on these individuals to retain personnel with the necessary technical knowledge and experience suitable for the envisioned level of involvement, and to exercise appropriate supervision over their activities.

Question A13. ***Under what scenario(s) could an individual state chartered bank fail as a result of derivatives-related activities? What catastrophes in the markets could cause a derivatives-related bank failure? Are banks required to formulate/simulate plans for such catastrophes?***

A13. The following discussion of bank failure scenarios is in the context of essentially speculative positions in the trading portfolio subject to a sharp adverse movement in interest rates or a rapid change in market conditions. The erosion of net interest margins and profitability as a result of an adverse interest rate risk positions could also lead to failure, but more gradually.

The failure of an insured financial institution resulting entirely from financial derivatives activity, while of concern to the FDIC, is not considered likely. Although notional amounts reported for derivatives activity are quite large, especially when taken in the aggregate, actual dollars at risk are only a fraction of the notional amounts. Since these notional amounts are only the basis for calculating future cash flows, and moreover, do not necessarily take into account offsetting transactions with the same counterparty, the potential immediate cash loss on any contract or portfolio of contracts is limited.

These notional amounts represent gross contracts outstanding. It is unlikely that this is largely an unmatched position; that is, all contracts would change in price in the same direction in response to a given market event. Therefore, calculation of the impact from a given change in market prices would not be based on the gross outstandings but on a substantially smaller net position. Nor is it likely that the gross amount would be largely with a single counterparty. The potential exposure from any specific price movement is likely to be spread over a number of counterparties, diversifying the risk of credit losses.

One possible failure scenario would begin with a bank building up a large unhedged, or unmatched, position with respect to its total capital. A substantial adverse change in market interest or currency exchange rates could result in an adverse mark to market impacting capital.

However, it would be difficult for a bank to obtain the credit approvals from prospective counterparties necessary to put on such a large, unmatched position. This is especially true for a smaller, less sophisticated institution which might inadvertently allow such a position mismatch to occur. Moreover, it is unlikely that the banking agencies would permit the acceptance by any insured financial

institution of an unmatched position extreme enough to place the institution at risk of failure in any foreseeable interest or exchange rate environment.

Another failure possibility, which would not necessarily depend on credit approvals, would be if a bank wrote (sold over the counter) a substantial volume of uncovered options, which were left unhedged. The writing of options involves the acceptance of unlimited liability to sell or purchase an underlying cash instrument. When the cash instruments are not already owned by the option writer and the option is executed by the buyer, the writer must purchase from or deliver to the buyer the underlying instrument at the rate specified in the option contract regardless of current market prices. This leaves the option writer fully exposed to any movements in the cash price of the underlying instrument. Again, for this situation to result in a failure, the underlying market would have to move dramatically against the bank which would then have to cover its option obligation at significantly disadvantageous prices, representing a cash loss and potentially a direct impact on capital.

However, it would take time to build up such an unmatched position and the counterparties would have to be large corporations with substantial needs for the underlying instrument or currency. Even allowing that such corporations would place any significant portion of their financing needs with a small bank, these counterparties have an interest in ensuring the capability of the institution to deliver as promised under the option. Further, the building of a substantial position of this nature would naturally incite the interest of the banking agencies which would take corrective action.

Banks are expected to incorporate into their management reports and planning, the impact of severe market rate changes on their interest rate risk position. These analyses, often presented in "worst case" scenarios, are in effect a planning tool for the possibility of market or exchange rate shocks. Institutions involved in trading or speculative activities in financial derivatives would generally have more critically imbalanced interest rate risk positions and would be affected earlier and more severely by such adverse rate changes.

B. Bank Derivatives Activity

Question B1. ***What percentage of derivatives products are provided by state chartered banks (i.e. what is state chartered bank market share)?***

B1. Relative to the money center banks, the use of derivatives by state non-member banks is comparatively slight. Most recent data indicates that approximately 98% of all bank derivative activity by volume remains concentrated in the largest banks. In addition, included in the state non-member bank totals are the holdings of state non-member subsidiaries of these same large money center or foreign banks.

Question B2. ***Please provide a list of the top 25 state chartered member banks by the amount of their derivatives exposure. Break the information down by type of derivative product, and identify the state chartered banks that are considered dealers.***

B2. Table 1 of Submission III shows the largest volume of activity at state non-member banks including the subsidiaries mentioned in the previous response. Volume is identified by financial derivative product type. Table 2 of this Submission provides this information for mutual savings banks for which the FDIC is the primary federal regulator. Only a few of these institutions can be considered dealers.

C. Concentration

Question C1. ***What are the pro's and con's related to the concentration of bank derivatives activities in a handful of large money center banks?***

C1. The existing concentration of financial derivative activities at a comparative handful of money center banks ignores the role in these markets played by non-bank financial companies such as investment banks and insurance companies, and by foreign banks. At the end of 1992, Banque Paribas and Societe

Generale, two large French banks, had the largest currency swap book and interest rate options book, respectively. Of the ten largest holdings of interest rate swaps, four are foreign banks or bank holding companies, another is Merrill Lynch and another the investment banking arm of JP Morgan.[1]

The comparative concentration of financial derivative activity at a relative handful of large commercial banks, presents some advantages, both from a market efficiency and a regulatory perspective, including:

- extensive technical expertise, market knowledge and experience in derivative products;
- ability to disburse various market risk factors over a diversified portfolio of financial contracts;
- insulation of specific risks afforded by the sheer size and diversity of these large banks;
- ability of these institutions to quickly raise capital or fund liquidity needs in global markets;
- large, well diversified institutions better prepared to deal with global market movements and events;
- competitive advantages and economies of scale achieved by larger volumes; and
- costly, complex and sophisticated risk reporting systems developed and used.

The disadvantages of the concentration of this activity include:

- The impact of a single participant default on the market. The difficulty experienced by counterparties of unwinding a large volume of positions in a negative market, may present some systemic risk issues due to the volume of interrelated transactions between the principal participants in the market. However, the degree of impact will be dependent on the dispersion of contracts and the extent to which the failure of the

[1] Swaps Monitor, September 27, 1993.

participant was related to a commonly experienced market event or condition.

- Withdrawal of any single participant for any reason, could have adverse effects on market liquidity.

- The possibility that a participant or group of participants will attempt to control the supply or price of a given financial contract.

Question C2. For each the ten largest state chartered bank derivatives dealers, indicate the credit exposure related to derivatives as a percentage of the banks capital.

C2. Table 5 of Submission III shows the ten largest derivatives dealers, both national and state chartered banks, and bank holding companies. The credit exposure is expressed as the percentage of capital committed to the replacement cost of these instruments. Exposure reflects the positive replacement cost of contracts, with only the effect of netting by novation reflected. No state non-member banks are included in the list of 10 largest bank or bank holding company derivatives dealers.

Question C3. Does your agency have defined criteria that must be met before a state chartered bank can offer derivative products? Do state chartered banks need to notify your agency prior to becoming a dealer in derivative products?

C3. There are no legal criteria for restricting the involvement in or offering of, financial derivatives by a state non-member bank. The safety and soundness implications of such activity would be reviewed on a case-by-case basis, considering the individual financial capacity, management and control environment of the specific institution.

While the industry readily accepts the common understanding of a dealer as a market maker in a given product or class of instruments, there is no standard legal definition for a financial derivatives dealer. In this context, state non-member banks need not provide notification before becoming a dealer in financial derivatives, with the exception of those contracts which fall under the definition of U.S. government securities as contained in Section 15 of the Securities and Exchange Act of 1934, specifically, option type contracts on US Government securities.

D. Speculation

Question D1. ***How does your agency define and identify speculation in derivative products activities at state chartered banks? Are there any rules or regulations involving bank speculation activities using derivative products?***

D1. The taking or acceptance of an open (unhedged or unmatched) position in a commodity or financial instrument in anticipation that future price movements will be advantageous is commonly referred to as speculating. The existence of individuals, groups or companies willing to take unmatched positions, is a fundamental part of all capital markets activities, providing liquidity, balance and reliable pricing to the market place. The FDIC's concern is that these speculators structure their activities in such a manner as to pose no undue risk to the insurance funds. Our focus is on the extent of position-taking in derivative instruments by insured institutions and their agents, and what form supervision of this activity should take.

The taking of unmatched positions with the intent of profiting from changes in the price of the instrument can be identified to an extent from the sheer volume of activity in financial derivatives transactions.

Speculation is difficult to specifically identify off-site by review of transaction volume. It would be expected that above normal income from this activity would be a possible indicator of more risky, speculative transactions. However, the difficulty of isolating income derived solely from speculating in financial derivatives makes this approach unreliable. A large volume of derivative activity might be expected to include the taking of unmatched positions, but again, the degree of risk is not necessarily evident simply from a review of the numbers.

An on-site examination is a more reliable tool to detect excessive position-taking. Not only because of access to more current and detailed financial reports and results, but also as a result of discussions with and reviews of management personnel. These will generally reveal the overall philosophy and operational approach to derivative instruments being taken by management. In this manner, positions which are merely coincidentally or superficially hedged can be revealed as speculative and apparently unmatched positions can be justified as moderating rather than accentuating risk. The FDIC believes that derivative activity should not necessarily be viewed as simply a separate

activity, but rather as an integral portion of the institution's business philosophy and approach. Similarly, the willingness of management to assume risks in these activities can often be assessed on the basis of the supervision and control exercised in other areas of the institution.

The rules and regulations addressing speculation in financial derivatives are essentially those that address such practices in a broader sense for all financial institution activities. The general supervisory guidance regarding unsafe and unsound conduct has been used relative to inappropriate involvement in financial derivatives by certain institutions. While further specificity may be warranted in some cases, the disadvantage in a rapidly evolving marketplace is that technical definitions or instruments can develop or change to take advantage of areas not individually or specifically addressed.

Question D2. What percentage of state chartered bank derivative transactions are related to a) market making functions? b) speculation? c) risk arbitrage?

D2. For the institutions for which the FDIC is the primary federal regulator -- state non-member banks and mutual savings banks -- information on the relative percentage of market making, speculative and arbitrage transactions is available only in individual examination reports which are not publicly available. These institutions are almost exclusively end-users of financial derivatives, as opposed to dealers or traders. The activities specified in the question are overwhelmingly concentrated in the large money center banks for which the FDIC is not the primary regulator.

Question D3. To what extent do state chartered banks enter into derivatives contracts to hedge or square positions on their own balance sheets?

D3. Financial derivatives activity at state nonmember banks is principally for the purpose of portfolio management, essentially adjusting the risk in balance sheet positions.

Question D4. What percentage of state chartered bank derivatives transactions are entered into with a) other market makers? b) financial versus nonfinancial end-users? c) existing bank customers? d) for the bank's proprietary trading purposes?

D4. Given their position as end-users of these instruments, the counterparties for state nonmember banks are almost entirely market making entities: U.S. commercial banks and investment banks, and some foreign financial companies. Detailed data on the relative extent that state non-member banks enter into these transactions with customers or for their own account, are available on an individual examination basis. This information is not publicly available.

Question D5. For the top derivative dealers, how important is income from derivative-related activities?

D5. While more specific information may be available in Federal Reserve or Comptroller of the Currency examination reports for banks, and from the SEC for other major domestic participants, monitoring and review of available off-site data reveals overall trading income making up a substantial portion of revenues for the largest entities involved in this market. While existing periodic reporting data does not focus on trading specifically in financial derivatives, it is clear from the sheer volume of this activity that it forms an important positive contribution to the bottom line of the major practitioners.

E. Separately Capitalized Subsidiaries

Question E1. What are the pro's and con's of requiring banks to establish separately capitalized subsidiaries to engage in derivatives activities?

E1. At this time, the FDIC Board of Directors has not endorsed a position either for or against separately capitalized subsidiaries to conduct derivative activities. The staff has not been approached by a bank with a substantive plan for capitalizing and allocating assets and liabilities to a proposed separate subsidiary. Review of the particulars of a given structure by the staff at the FDIC would be appropriate prior to pronouncing whether creation of special purpose subsidiaries is appropriate for insured financial institutions. The emphasis of any such review would be on the safety and soundness issues raised by the individual proposal, and with full consideration of specific advantages and disadvantages.

From the individual bank perspective, as well as that of the supervisory authority/insurer, the principal argument in favor of requiring that derivatives activities be limited to separately capitalized subsidiaries would be the establishment of a downside loss limit to the extent of the resources of the subsidiary. However, inasmuch as that concept would provide protection to the bank, it would for those very reasons be unattractive to a counterparty and therefore eliminate or limit the activity perhaps unnecessarily. To the contrary, the ability to establish such subsidiaries without prior clearance by the insurer could induce otherwise non-creditworthy banks to "carve out" assets as contributed capital to the subsidiary, offering a preference claim to the benefit of derivatives counterparties to the potential detriment of all other bank creditors and perhaps the insurer.

Question E2. In providing derivatives products, to what extent does deposit insurance provide banks with an advantage or disadvantage over nonbank competitors?

E2. The advantage for banks to participate in this market as providers of financial derivatives is not so clearly the direct result of deposit insurance. Rather, it appears that it is more a function of the nature of the commercial banking business and the structure institution balance sheets. These factors provide three things not necessarily available to nonbank competitors.

- A customer base with a wide variety of market risk positions and a general willingness to mitigate or exchange certain of these risks. This allows banks to produce and sell a variety of financial derivative products. Within a sufficiently large pool of customers, individual companies will likely have partially offsetting risk positions and will likely require partially offsetting instruments to hedge these positions. This enables a bank to naturally maintain a partially balanced financial derivatives portfolio or "book."

- The interest rate sensitivity of portfolios of interest bearing assets and liabilities results in a certain assumption of natural balance sheet interest rate risks. Banks must routinely manage these positions, which would also enable them to offer positions in financial derivatives to others.

  Trading or other derivatives activity is most likely an outgrowth of operational and pricing efficiencies achieved from experience in the deal-making portfolio providing this financial service to customers or from hedging their own balance sheet.

- Banks are widely viewed as having substantial risk evaluation and diversification capabilities, important characteristics of either dealers or traders in these instruments. Banks are also seen as having long term legal structures, important for counterparties with long term contract maturities.

While deposit insurance certainly plays an underlying role in the fundamental characteristics of the banking business and of bank balance sheets, it does not necessarily create particular advantages in derivatives activities. The financial derivatives business does not require the advantage afforded by insured deposits in generating a volume of lower cost funds; in fact, many of the largest bank participants in this market rely heavily on funding sources other than insured deposits.

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U.S. HOUSE OF REPRESENTATIVES

COMMITTEE ON BANKING, FINANCE AND URBAN AFFAIRS

ONE HUNDRED THIRD CONGRESS

2129 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-6050

October 5, 1993

Honorable Jonathan Fiechter
Acting Director
Office of Thrift Supervision (OTS)
1700 G Street, N.W.
Washington, D.C. 20552

Dear Mr. Fiechter:

On October 28, 1993 at 9:30 a.m., the Committee on Banking, Finance and Urban Affairs will hold a hearing to examine the safety and soundness issues associated with savings and loan derivative activities. You are respectfully invited to testify at the hearing.

So that the Committee may better understand the various safety and soundness issues involving thrift derivative activities, please work with the Federal Deposit Insurance Corporation (FDIC), the Office of the Comptroller of the Currency (OCC), and the Federal Reserve to provide written answers to the following questions by the close of business October 26, 1993.

A. Regulation and Supervision

1. Please define and explain the systemic risks associated with thrift derivative activities?
2. Please define and explain the risks associated with individual thrift involvement in derivatives activities.
3. What steps has your agency taken to ensure the safety and soundness of thrifts involved in derivative product activities?
4. Do current international and domestic capital standards adequately reflect the risks associated with thrift derivatives activities?
5. Please summarize your agency's strategy for supervising thrift derivative product activities?

6. What steps has OTS taken to ensure examiners are properly trained to supervise derivative activities? How many examiners are trained to supervise thrift derivative activities? Is there a separate "derivatives" examiner corps at the OTS?
7. To what extent does our multi-layered financial institution regulatory system complicate efforts to supervise derivatives activities at federally insured depository institutions? Would a single financial institution regulatory agency improve oversight and supervision of thrift derivatives activities? Please comment on Comptroller Ludwig's call for the creation of an interagency task force on derivatives.
8. How does regulation and supervision of derivatives activities differ between thrifts and banks?
9. Does your agency support additional financial reporting requirements (e.g. credit exposure, replacement cost exposure, etc.) related to derivatives information contained in thrift financial statements?
10. Does your agency support changing U.S. and international accounting standards to reflect more standardized reporting of derivatives information contained in financial institution statements? Please explain.
11. Are thrift risk management systems adequate to address the risks posed by derivative activities? Please differentiate between the large, well established dealers versus new entrants to the derivatives market. Is your agency developing standardized guidelines for thrift risk management systems?
12. Does your agency require senior managers and board members to pass competency tests to ensure they are experienced in managing the risks associated with derivative activities?
13. Should thrifts have at least two directors that have direct experience in managing the risks associated with derivatives activities?
14. Under what scenario(s) could an individual thrift fail as a result of derivatives-related activities? What catastrophes in the markets could cause a derivatives-related thrift failure? Are thrifts required to formulate/simulate plans for such catastrophes?

B. Thrift Derivatives Activity

1. What percentage of derivatives products are provided by thrifts (i.e. what is thrift market share)?
2. Please provide a list of thrifts that offer derivatives products. Break the information down by type of derivative product, and identify of the thrifts that are considered dealers.
3. Are thrift holding company derivative activities profitable? How important are derivatives-related profits to overall thrift profitability?

C. Concentration

1. What are the pro's and con's related to the concentration of bank derivatives activities in a handful of large money center banks?
2. For each the ten largest thrift derivatives dealers, indicate the credit exposure related to derivatives as a percentage of the thrifts capital.
3. Does your agency have defined criteria that must be met before a thrift can offer derivative products? Do thrifts need to notify your agency prior to becoming a dealer in derivative products?

D. Speculation

1. How does your agency define and identify speculation? Are there any rules or regulations involving thrift speculation activities using derivative products?
2. What percentage of thrift derivative transactions are related to a) market making functions? b) speculation? c) risk arbitrage?
3. To what extent do thrifts enter into derivatives contracts to hedge or square positions on their own balance sheets?
4. What percentage of thrift derivatives transactions are entered into with a) other market makers? b) financial versus nonfinancial end-users? c) existing thrift customers? d) for the thrift's proprietary trading purposes?
5. For the top derivative dealers, how important is income from derivative-related activities?

E. Separately Capitalized Subsidiaries

1. What are the pro's and con's of requiring thrifts to establish separately capitalized subsidiaries to engage in derivatives activities?
2. In providing derivatives products, to what extent does deposit insurance provide thrifts with an advantage or disadvantage over bank competitors?

Please provide answers to the following questions by the close of business, November 26, 1993.

A. Separately Capitalized Subsidiaries

1. Does the OTS currently encourage or discourage thrifts from setting up separately capitalized subsidiaries to engage in derivatives-related activities? Over the past several years, how many thrifts applied to establish separately capitalized subsidiaries to engage in derivatives-related activities? Has the OTS acted on those applications? Please explain the reasons the OTS approved or denied each application? Has the OTS encouraged thrifts to withdraw such applications?

2. How does a thrift's credit rating affect its ability to provide derivatives products to its customers? How does a thrifts credit rating affect its ability to perform market making functions in derivatives products?

B. Over-the-Counter (OTC) Versus Organized Exchange

1. What percentage of the thrift derivative transactions are arranged over-the-counter (OTC) as opposed to being arranged through an organized exchange? What percentage of thrift OTC transactions are between market-makers versus OTC transactions between market-makers and their customers?
2. What are the differences in the markets, and what special supervisory issues arise as a result of the differences in the markets?
3. To what extent does your agency interface/cooperate with exchange officials associated with thrift exchange related activities?
4. To what extent does your agency interface/cooperate with the Commodities Futures Trading Commission (CFTC) and the Securities Exchange Commission (SEC) related to thrift derivatives activities?
5. Please identify exchange-related clearing organizations, their function and thrift membership in clearing organizations? Who performs the exchange or clearing organization function in the OTC market?
6. How do the parties to a derivatives contract ensure contract performance in the OTC market?

C. Trusts

1. How many derivatives products (quantity and notional value) do dealer thrifts sell to their existing discretionary trust customers? nondiscretionary trust customers? What is the income from those transactions?
2. Are there any rules governing the sale of derivative products to a thrift's discretionary or nondiscretionary trust customers?
3. In your opinion, is it a conflict of interest for a thrift to sell derivatives products to its discretionary or nondiscretionary trust customers?

E. Trading Accounts and Chinese Walls

1. For the top ten thrift derivatives dealers for the past five years, please provide trading assets and trading profits?
2. For those same thrifts over the same period of time, what percentage of each thrifts assets are trading assets and what percentage of total income is derived from trading income?

3. To what extent are there legal and physical barriers erected between thrift proprietary trading activities and a thrift's customer-related derivatives activities?
4. In trading for their own proprietary accounts, to what extent do dealer thrifts use information gleaned from customer-related derivatives activities?

F. Taxes

1. Please comment on the feasibility and implications of levying a tax on speculation-related derivative transactions.

Please feel free to address any other issues that will shed light on your agencies efforts to supervise and regulate thrift derivative activities.

You will be given 5 minutes to summarize your written remarks. Banking Committee rules require that 200 copies of your written testimony be delivered to Room 2129, Rayburn House Office Building, no later than the close of business October 26, 1993.

Thank you for your cooperation. The Committee looks forward to your testimony. With best wishes.

Sincerely,

Henry B. Gonzalez
Chairman

HBG:dk/mc

EMBARGOED
until Oct 28, 10 am

Testimony

of

Jonathan L. Fiechter, Acting Director

Office of Thrift Supervision

concerning

Derivative Securities Activities

before the

Committee on Banking, Finance and Urban Affairs

United States House of Representatives

October 28, 1993

Office of Thrift Supervision
Department of the Treasury

1700 G Street N.W.
Washington D.C. 20552
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INTRODUCTION

Good morning, Mr. Chairman, members of the Committee. Thank you for inviting me to testify on behalf of the Office of Thrift Supervision (OTS) on the safety and soundness issues associated with the use of derivative instruments. My testimony today primarily deals with nonmortgage-related derivatives since that has been the focus of the most recent discussions and studies.

The explosive growth of financial derivatives markets has drawn attention to the implications of derivatives for the banking system and financial markets. The focus on these markets by public officials, private market participants, and the press has been intensive and very healthy. It should help to "demystify" the world of derivatives, and bring to the forefront the benefits as well as the potential risks of these markets.

Mr. Chairman, as you know, the topic of derivatives has generated much discussion of systemic risk -- the risk that a mishap in the derivatives market could precipitate a major disruption or collapse of the financial system. A frequently mentioned worst-case scenario is that the default of a major derivatives dealer or counterparty could cause other dealers and counterparties to fail, which in turn could set off a chain reaction of failures throughout the global financial community. As you know, central bankers, other regulators, and market participants are continuing their efforts to ensure that such scenarios remain financial fiction.

Since much of the concern about systemic risk seems to focus on the activities of institutions that act as dealers in the derivatives markets, I should point out that none of the savings associations supervised by OTS are derivatives dealers. However, savings associations are end-users of derivatives. Consequently, I will direct my remarks to the use of derivatives by thrift institutions and to OTS' supervision of their derivative activities.

WHAT EXACTLY ARE DERIVATIVES?

A derivative is a financial instrument whose value is based on the value of an underlying asset, an index, or a reference rate. The most common derivatives include futures, options, swaps, and forwards. These instruments can be tied to interest rates, equities, commodities, and foreign currencies.

BENEFITS OF DERIVATIVES

Derivative financial products are used primarily to manage risk. The demand for these products has grown exponentially over the last two decades in response to the increased volatility of financial markets. In particular, the volatility in foreign exchange, commodities, equities, and money markets has created a strong demand for financial products that can be used to control risks in those markets.

The growth of derivative products that are used to manage interest rate risk is a good example of how innovation is driven by the needs of the marketplace. In the late 1970s and early 1980s, interest rates rose dramatically, and the volatility of interest rates also increased. The need for better and more varied tools for managing interest rate risk became apparent. The markets responded to that need with a host of new derivative instruments, including new financial futures contracts, options on futures, forward rate agreements, interest rate swaps, interest rate caps, floors, and collars.

Before derivatives, financial institutions managed their exposure to interest rate risk by altering the composition of their assets and liabilities. For example, an institution that wanted to reduce its exposure to rising interest rates might have adjusted the liability side of its balance sheet by replacing short-term borrowings with long-term borrowings. Or, it might have adjusted the asset side of its balance sheet by replacing long-term fixed rate assets with shorter-term or variable rate assets. Changing the mix of assets and liabilities can be a time-consuming, expensive, and cumbersome way to manage interest rate risk exposures. Today, an institution can adjust its risk exposure -- with more precision, greater efficiency, and often at a lower cost -- by entering into off-balance-sheet transactions with derivatives, such as interest rate swaps, financial futures, or options.

Derivatives also can enhance the ability of financial institutions to serve their customers' needs. For example, derivatives make it easier for lending institutions to offer borrowers the types of loans they want. The 30-year fixed-rate mortgage is a case in point. Many borrowers prefer 30-year fixed-rate mortgages to 15-year or adjustable-rate mortgages. However, the fixed-rate mortgage carries considerably greater interest rate risk to lending institutions -- particularly in an environment of increased interest rate volatility. Derivatives can enable lenders to better cope with the risks of holding fixed-rate mortgages by enabling them to transfer some of the risk to others.

The enormous size of the derivatives market reflects the broad range of applications for these products, as well as their acceptance by financial institutions, institutional investors, and corporate treasurers. It is a healthy, vital market -- a global market created and dominated by American financial institutions. And it is a clear example of how the creativity and flexibility of our financial system can create a new industry that is a vibrant part of the nation's economy.

SAFETY AND SOUNDNESS CONCERNS

While financial derivatives can be very useful products for managing and controlling risk, they can -- like any other financial product -- be misused. Our primary concern with derivatives is speculation. Put simply, while derivatives offer new ways to reduce risk, they also offer new ways to speculate.

"Speculation" is an emotionally charged word that means different things to different people. Here, I am using the term to refer to the practice of taking on additional risk. There is the danger that insured depository institutions, or even unauthorized staff of such institutions, might use derivatives to take speculative positions.

Although speculators play a useful role by bearing risks that others are unwilling to bear, OTS does not believe savings institutions should be engaged in speculative activities, whether with derivatives or any other financial instrument.

Another concern often raised about derivatives is that they are complex instruments. Some derivatives are structurally complex instruments, but many of the most widely-used instruments are actually quite simple.

Indeed, a case can be made that "plain vanilla" futures contracts, interest rate swaps, and interest rate options are less complex than many of the more familiar financial instruments such as loans, deposits, and equity securities. They are certainly far less complex than a 30-year fixed-rate mortgage which contains an option that permits the homeowner to prepay the loan at any time.

Nevertheless, the world of derivatives is new and unfamiliar. The language is arcane, the theoretical foundation that underlies financial derivatives is complex, and the techniques that are used to measure and monitor derivative exposures are very sophisticated. "Complex" is probably the right word when we look at the entire range of derivatives and it is that complexity that increases the opportunity for missteps.

CHALLENGE TO REGULATORS

Derivative financial products available for use by depository institutions present difficult challenges to bank and thrift regulators. Four key challenges come to mind:

- o Keeping up with the pace of financial innovations in the derivatives markets;
- o Risk measurement;
- o Obtaining the information needed to measure properly the risks associated with the use of financial derivatives without imposing an undue burden on the industry; and
- o Ensuring that regulatory policies and practices provide an environment in which qualified depository institutions with the specialized expertise are not discouraged from using these instruments to reduce risk and to lower their cost of carrying out many kinds of financial transactions.

MEETING THE CHALLENGES

With regard to the first challenge -- that of keeping pace with financial innovation in the derivatives markets -- we have made a special effort to maintain a group of capital markets and interest rate risk specialists in our Washington D.C. headquarters and in each of our regional offices. These specialists are available to assist examiners and other supervisory staff that have questions on derivatives or need assistance in evaluating the positions of individual savings associations. In addition, OTS offers its staff a number of training courses that cover derivatives and their use by savings associations.

The second challenge posed by derivatives -- that of risk measurement -- has been a major priority of OTS. We have developed and implemented a sophisticated, state-of-the-art interest rate risk model that is capable of measuring the effect of derivatives on an institution's overall interest rate risk exposure.

The OTS model measures risk on a "total portfolio basis." This approach recognizes that risk is properly viewed in the context of an institution's entire portfolio of assets, liabilities, and off-balance-sheet contracts. The effect of a derivative on the overall risk of the institution, not the derivative's "stand-alone" risk, is the proper focus for an institution's management.

For example, the addition of a particular derivative to the portfolio of Thrift A might further increase its overall

risk, while the addition of the same derivative to Thrift B's portfolio could decrease its risk. It is the contribution to portfolio risk, not the risk of the instruments on a stand alone basis, that counts. The failure to evaluate the effect of derivatives on an institution' total portfolio can lead to inappropriate risk assessments.

Each quarter we use our model to generate interest rate risk exposure reports for individual savings associations. The exposure reports include OTS' estimates of the economic value of the institution assets, liabilities, and off-balance sheet contracts, including derivatives, under nine different interest rate scenarios. These reports are sent to the savings associations and to OTS supervisory and examination personnel for their use.

To address the third challenge -- that of collecting sufficient information to supervise the derivatives activities of savings associations -- OTS staff has worked closely with industry experts to re-design the reporting form that we use to collect the necessary data. As a result, we introduced a new reporting form in March of this year that provides extensive information on derivatives.

The new reporting form uses a unique four-digit coding system that allows us to distinguish among nearly 300 different types of off-balance-sheet derivatives. Using these data, OTS estimates the value of each reported derivative position in conjunction with the rest of the institution's assets and liabilities under the current interest rate environment and under eight alternate interest rate scenarios. These estimates are used to determine whether institutions are using these products to reduce or increase their overall interest rate risk.

This information must be reported by all savings associations except those with assets of less than $300 million that have risk-based capital ratios in excess of 12 percent. Although such small, highly-capitalized institutions are exempt from filing this report, over 70 percent of them submit the schedule voluntarily.

Finally, with respect to the challenge of providing a regulatory environment that does not discourage qualified institutions from using derivatives instruments to reduce risk, we have made progress. But further progress is needed because, simply put, in a business that is exposed to considerable interest rate risk, savings institutions may be hurting themselves by avoiding legitimate risk reduction tools for fear that their use will invite undue regulatory scrutiny.

Today relatively few institutions use derivatives. Only 117 of the 1,822 SAIF-insured savings associations reported positions in derivatives, as of September 30, 1993. Of these, 82 had positions in interest rate swaps, 20 had futures contracts, and 43 had options positions.

These institutions appear to be using the derivatives to reduce their risk exposure. The Risk Management Division of OTS conducted a sensitivity analysis of these institutions to assess the hedge value of their derivatives positions, or more specifically, to determine the protection they would provide against rising interest rates. The analysis suggests that if interest rates were to rise by 200 basis points, the economic value of the derivatives reported by these institutions would increase from their economic value as of September 30, from $547 million to $911 million -- providing hedge protection amounting to $364 million.

There is no question that regulators need to be able to distinguish proper use of derivatives from improper use. We believe that the OTS interest rate risk model has gone a long way toward addressing this concern.

Under the new framework, an institution's capital requirement is directly related to its overall interest rate risk exposure. Thus, the effect of derivatives on an institution's interest rate risk exposure is taken into account in determining its capital requirement.

On this particular challenge of providing a safe harbor for derivatives usage, I have been asked the question: "Is the risk of using derivatives less than the risk of not using them?" Surprisingly, I learned that even the courts have been asked to address this question. Last year, an Indiana court ruled in Brane vs. Roth that a grain elevator operator that did not hedge could be held liable for losses it sustained. Clearly, we have to be prepared for change.

CONCLUSION

The financial engineering that is taking place at our nation's leading financial institutions is evolving. Futures, options, swaps, and other derivatives have been proven to be efficient and effective risk management tools. The growth of the derivatives markets underscores their usefulness. Many depository institutions have used them to reduce risk. In so doing, risk to the Federal deposit insurance funds has also been reduced.

At OTS, we have devoted considerable effort to develop and implement a supervisory approach that allows qualified institutions to use derivatives to reduce risk exposure.

We are particularly mindful that an overly cautious supervisory approach could have the unintended effect of discouraging the use of these products to reduce risk.

Mr. Chairman, that concludes my testimony. I would be pleased to address any questions you may have.

Office of Thrift Supervision
Department of the Treasury
1700 G Street, N.W., Washington, D.C. 20552 • (202) 906-6590

October 26, 1993

The Honorable Henry B. Gonzalez
Chairman
Committee on Banking, Finance
and Urban Affairs
U.S. House of Representatives
Washington, D. C. 20515

Dear Mr. Chairman:

Thank you for the opportunity to respond to a series of questions concerning safety and soundness issues associated with thrift institution derivative activities. I am pleased to attach the Office of Thrift Supervision's responses.

In keeping with the fact that the recent discussions and studies have focused on non-mortgage-related derivatives, our responses refer to derivative activities pertaining to futures, options and interest rate swaps and not mortgage derivative activities of savings associations. However, we have included a study prepared last spring that discusses in detail the mortgage derivative activities of savings associations.

Sincerely,

Jonathan L. Fiechter

Jonathan L. Fiechter
Acting Director

Attachment

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DERIVATIVE QUESTIONS AND ANSWERS FOR CHAIRMAN GONZALEZ
by
The Office of Thrift Supervision

GROUP I QUESTIONS

A. Regulation and Supervision

1. Please define and explain the systemic risks associated with thrift derivative activities.

In this response and those that follow, we define derivatives to include futures, options, swaps, swaptions, caps and floors, foreign exchange contracts, and similar off-balance-sheet items.

The principle source of systemic risk in derivatives markets is believed to come from major international banks and investment banking firms that act as dealers in the over-the-counter derivatives market. The thrift industry participates in derivatives markets as end-users, not as dealers. Approximately six percent of savings associations use derivatives.

Savings associations use derivatives primarily to limit exposure to interest rate risk. Moreover, OTS has taken a number of steps to encourage the prudent use of derivatives by savings associations.

The systemic risk associated with derivatives that would directly affect savings associations is the credit risk of a major dealer or other counterparty that could "spill over" and affect the health of the thrift industry, or impair the liquidity of derivatives markets. OTS capital rules and policies for prudential use of derivatives, such as the proper selection of counterparties and diversification of derivatives transactions among several counterparties, act to mitigate the risk from a systemic crisis in the derivatives market. OTS's interest rate risk management program is discussed in detail in the answer to question A.3. below.

2. Please define and explain the risks associated with individual thrift involvement in derivatives activities.

Because thrifts are end-users of derivatives they do not face the risks encountered by broker/dealers. As with any other financial instrument, our primary concern with the use of derivatives by thrifts is that they might be used imprudently. In addition, we are also concerned that derivatives might be used improperly by employees who do not have sufficient technical expertise.

3. What steps has your agency taken to ensure the safety and soundness of thrifts involved in derivative product activities?

Derivatives can be used to manage various types of risk. If used properly, they can be used to lower the interest rate risk in the thrift industry.

Interest rate risk is a fundamental result of the basic business of the thrift industry. The damage to the thrift industry that can be caused by sudden interest rate changes was one of the lessons of the late 1970s and early 1980s. As a result of that episode, OTS has implemented a comprehensive program to address interest rate risk in the thrift industry. Among other things, that program is designed to take into account the use of derivatives by savings associations. The objectives of that program are to:

- o Promote a better understanding of interest risk among savings associations and OTS supervisory and examination personnel.
- o Ensure that savings associations set internal interest rate risk exposure limits at appropriate levels.
- o Make certain that large savings associations -- those with more than $500 million of assets -- have the management information systems needed to measure their interest rate sensitivity.
- o Strengthen our interest rate risk surveillance and monitoring efforts and provide OTS-generated interest rate risk estimates to individual associations and to OTS personnel.
- o Incorporate an interest rate risk component into the risk-based capital framework.

Industry Guidance (Thrift Bulletin 13)

The first element in the OTS interest rate risk program was contained in Thrift Bulletin 13, issued in 1989. Thrift Bulletin 13 advises institutions to set interest rate risk exposure limits and describes the internal policies, practices, and procedures that OTS expects institutions to follow in managing their interest rate risk exposure.

Thrift Bulletin 13 requires any institution with $500 million or more in assets or any institution that holds "high-risk" mortgage derivative products to have an interest rate risk measurement system. The measurement system must be capable of measuring the effect of changes in interest rates on the institution's net interest earnings and on the market value of the institution's portfolio of assets, liabilities, and off-balance sheet contracts.

If an institution uses derivatives, the measurement system must be capable of valuing the derivatives under different interest rate scenarios. The emphasis on market value ensures that the analysis is conducted in a portfolio context and that all financial derivatives are taken into account.

OTS Model

OTS has developed a sophisticated computer model, which it began using in 1991, to measure and monitor the interest rate risk exposure of individual savings associations and the industry as a whole. OTS uses the model to conduct scenario analysis and to generate Interest Rate Risk Exposure Reports for individual savings associations and for OTS staff.

The Exposure Reports include OTS' estimates of the market value of the institution assets, liabilities, and off-balance sheet contracts, including derivatives, in nine different interest rate scenarios. Exposure Reports are sent to the savings associations each quarter for their use.

OTS introduced a new version of the model early this year that greatly enhanced our ability to monitor the derivatives activities of savings associations.

Enhanced Reporting of Derivatives

In 1992, OTS staff worked closely with industry experts to re-design the reporting form, known as Schedule CMR, that OTS uses to collect the data needed to measure the interest rate risk exposure of savings associations. As a result of that collaborative effort, we re-designed the reporting form so that it provides extensive information on derivatives without imposing a significant burden on the industry. Schedule CMR uses a four-digit coding system that allows us to distinguish among 277 different types of off-balance-sheet derivatives.

Using these data, OTS estimates the value of each reported derivative with current interest rates and with eight alternate interest rate scenarios. These estimates provide an indication of whether institutions are using these products to reduce its overall interest rate risk.

Schedule CMR must be reported by all savings associations except those with assets of less than $500 million that have risk-based capital ratios in excess of 12 percent. Although such small, highly-capitalized institutions are exempt from filing this report, about 70 percent of them submit the schedule voluntarily. These institutions receive an Interest Rate Risk Exposure Report prepared by OTS each quarter.

IRR capital component

The existing OTS risk-based capital standards require savings

associations to hold capital to absorb potential credit losses on derivative instruments. Those requirements, however, largely ignore the contribution of derivatives to interest rate risk in the associations. Since the existing capital framework does not specifically address interest rate risk, strong incentives exist to seek higher returns by substituting interest rate risk for credit risk.

To address this flaw, OTS recently amended its risk-based capital requirements to incorporate an interest rate risk component. The amendment becomes effective January 1, 1994.

Under the new framework, an institution's capital requirement is directly related to its overall interest rate risk exposure. Thus, the effect of derivatives on an institution's exposure is taken into account in determining its capital requirement.

Last spring the OTS provided a study of the use of derivatives by savings associations. Chapter 4 of that study summarizes the policies and procedures used by the OTS to regulate and monitor derivatives activities of savings associations. The derivatives study is attached.

4. Do current international and domestic capital standards adequately reflect the risks associated with derivatives activities? Are current and proposed capital standards adequate? Please explain.

Under the current risk-based capital rule of OTS, capital requirements for financial derivatives are based primarily on the credit risk of an institution's portfolio of derivatives. There is no explicit capital charge for the interest rate risk associated with derivatives. The capital requirement for financial derivatives (i.e., interest rate swaps, basis swaps, forward rate agreements, interest rate options purchased, and similar instruments), which are off-balance-sheet contracts, is based on the "credit equivalent amount" of each contract. The credit equivalent amount of each contract is the sum of the mark-to-market value of the contract (if positive) plus the estimated potential future credit exposure over the remaining life of each contract. The potential future credit exposure on a contract is estimated by multiplying the notional principal amount of the contract by 0.5 percent for contracts greater than one year. (There is no add-on for contracts of less than one year.) Once the credit equivalent amount for the contract has been determined, the amount is assigned to the risk weight category appropriate to the counterparty (not to exceed 50%).

OTS recently revised its risk-based capital rule to take account of interest rate risk, including the interest rate risk and risk reduction associated with financial derivatives. The new rule becomes effective on January 1, 1994. Under the revised rule, institutions with "above normal" levels of interest rate

risk will be subject to an interest rate risk capital component that will be incorporated into their risk-based capital requirement. The OTS model estimates the interest rate risk exposure of savings associations. The resulting estimates will be used by OTS to determine how much capital an association will be required to hold for interest rate risk. The OTS model takes account of financial derivatives in measuring an institution's interest rate risk exposure.

OTS believes that the revised risk-based capital rule, which takes account of interest rate risk, represents a significant and much needed improvement over the existing framework. Although further improvements to that framework will likely be made, OTS believes that the current framework more closely relates the capital requirements of institutions to their overall risk exposures.

The Bank for International Settlements (BIS) has coordinated discussions between U.S. and foreign regulators on the regulation of derivatives, but OTS has not been a party to those discussions. Based on the extensive work OTS has done on interest rate risk, we believe that we could contribute to those discussions.

5. Please summarize your agency's strategy for supervising thrift derivative product activities?

The OTS interest rate risk program is based on a portfolio approach to risk measurement. This approach recognizes that risk must be viewed in the context of an institution's entire portfolio of assets, liabilities, and off-balance-sheet contracts. The risk that management needs to be concerned about is not the riskiness of a particular financial instrument on a "stand alone" basis, but rather its contribution to portfolio risk. What counts is the incremental increase or decrease in risk to the entire portfolio that results from inclusion of derivatives in that portfolio.

For example, a particular derivative product may appear risky when viewed in isolation. The addition of that derivative to the portfolio of Thrift A might further increase its overall risk, while the addition of the same derivative to Thrift B's portfolio could decrease its risk. It is the contribution to portfolio risk, not the risk of the instruments on a stand alone basis, that ultimately matters.

The portfolio approach to risk is an integral part of the OTS interest rate risk program. OTS has for several years supervised interest rate risk on such a portfolio basis and has recently revised its risk-based capital requirements to incorporate a total portfolio-based interest rate risk component into the risk-based capital framework. As a result of that revision, the amount of capital that an institution must hold for interest rate risk is based on the overall interest rate risk exposure of the institution.

6. What steps has OTS taken to ensure examiners are properly trained to supervise derivative activities? How many examiners are trained to supervise thrift derivative activities? Is there separate "derivatives" examiner corps at the OTS?

OTS provides examiners extensive training in derivative products. The training materials on derivative are presented in six courses, starting with basic information about futures, swaps, and options, to advanced case studies reflecting their use in financial institutions. These courses are:

- o New Thrift Regulator School ("NTRS")
- o Financial Instruments, Futures and Other Instruments ("FIFO")
- o Risk Management ("RM")
- ó Advanced Capital Markets ("ACM")
- o Advanced Examiner Topics ("AET")
- o Intermediate Thrift Regulator School ("ITRS")

The NTRS and FIFO or RM courses are required courses for examiners working toward obtaining their Federal Thrift Regulator (FTR) designation. They are usually completed within the first three years of an examiner's career. ITRS is the final required course examiners must successfully complete to be eligible for the FTR designation. Participants who attend ITRS are evaluated on their ability to assess the institution's use of derivative financial instruments.

The ACM and AET courses are generally taken by more experienced, FTR accredited examiners who are responsible for examining larger or more complex institutions. These are elective courses but are generally taken in fulfillment of (annual) continuing education requirements. The continuing education is provided annually to ensure that OTS examiners receive the most current training available on the constantly changing financial markets.

All courses are revised periodically to reflect changes in the financial markets or regulations. Examples of these changes include:

- o The extensive modification of FIFO in 1992 to include more in-depth material on interest-rate swaps.
- o The inclusion in NTRS of OTS/FFIEC's Statement of Policy on Securities activities, TB-52, which provides guidance on the use of mortgage derivatives.
- o Information on current financial markets and instruments and the impact of swaps in AET.

In addition to receiving instruction on the technical aspects of derivative financial instruments, examiners are trained to

evaluate management's ability to use these instruments effectively. Internal control and accounting issues are also reviewed.

Chapter 6 of the March 1993 report provides more detail on each of the courses that cover derivatives.

Throughout their career all examiners receive training that covers derivatives. While all examiners receive derivatives training, the capital markets groups in each region specialize in that area. The capital markets groups in each of the five regional offices designate staff who serve as interest rate risk contacts. The interest rate risk contacts assist examiners with questions on all areas of interest rate risk, including issues concerning use of derivatives. The interest rate risk contacts serve as a liaison between the examiners and Washington headquarters for the exchange of new information about derivatives and derivatives supervision.

7. To what extent does our multi-layered financial institution regulatory system complicate efforts to supervise derivatives activities at federally insured depository institutions? Would a single financial institution regulatory agency improve oversight and supervision of thrift derivatives activities? Please comment on Comptroller Ludwig's call for the creation of an interagency task force on derivatives.

As a general matter, we support a coordinated and consistent approach to the supervision of similar activities at insured institutions. We would, therefore, welcome the opportunity to participate with the OCC and the other banking agencies in an interagency task force on derivatives. As indicated earlier, we understand that the OCC, FDIC, and FRB have been working with foreign bank regulators on the regulation of derivatives. If those discussions include a change in the capital treatment of derivatives, this will affect thrifts.

As noted in the answer to the next question, however, OTS's approach to supervising derivative activities has included the collection of much more detailed information from thrifts on their off-balance-sheet activities than is presently gathered by the banking agencies. We would be reluctant to give up this information for the sake of uniformity unless an alternative approach was developed that provided a similar level of comfort to the supervisors.

8. How does regulation and supervision of derivatives activities differ between thrifts and banks?

In contrast to the banking agencies, OTS collects fairly detailed information on derivatives, using its quarterly call reports. OTS collects information in Schedule CMR of the Thrift

Financial Report on all major types of off-balance-sheet instruments, including futures, options, swaps, caps, floors, and swaptions. Key information is collected for each type of instrument, including a code to identify the type of contract, its notional amount, the time to maturity or expiration, and relevant interest rates and margins. Using this information, OTS estimates each quarter the current value of 277 different types of instruments and their contribution to risk or risk reduction in each of nine separate interest rate scenarios.

OTS also collects information on the rest of an institution's assets and liabilities that is used in conjunction with the off-balance-sheet information to estimate the interest rate risk of the institution's entire portfolio. Only by estimating the interest rate sensitivity of the portfolio with and without derivatives can the incremental contribution of derivatives to risk or risk reduction be assessed.

Because savings institutions are end-users of derivatives, supervision and regulation of broker/dealer activities is not necessary. Supervision of broker/dealer activities of banks and other aspects of banking supervision and regulation are best discussed by the banking agencies.

9. Does your agency support additional financial reporting requirements (e.g., credit exposure, replacement cost exposure, etc.) related to derivatives information contained in thrift financial statements?

OTS believes that its current reporting requirements provide sufficient information about the derivatives activities of savings institutions. The recent improvements in schedule CMR discussed above allow the OTS to estimate exposure to interest rate risk in the current environment and in eight alternative interest rate scenarios. OTS has no plans to change reporting requirements for derivatives.

10. Does your agency support changing U.S. and international accounting standards to reflect more standardized reporting of derivatives information contained in financial institution statements? Please explain.

OTS concurs with recommendation 19 of the G-30 report regarding international harmonization of accounting standards for derivatives, but does not believe the recommendation should be implemented by regulation. The recommendation is consistent with existing GAAP required by OTS. Recommendation 19 of the G-30 report is included below, along with a summary of GAAP policy for derivatives.

Recommendation 19: Accounting Practices

International harmonization of accounting standards for derivatives is desirable. Pending the adoption of harmonized standards, the following accounting practices are recommended:

- o Dealers should account for derivatives transactions by marking them to market, taking changes in value to income each period.

- o End-users should account for derivatives used to manage risks so as to achieve a consistency of income recognition treatment between those instruments and the risks being managed. Thus, if the risk being managed is accounted for at cost (or, in the case of an anticipatory hedge, not yet recognized), changes in the value of a qualifying risk management instrument should be deferred until a gain or loss is recognized on the risk being managed. Or, if the risk being managed is marked to market with changes in value being taken to income, a qualifying risk management instrument should be treated in a comparable fashion.

- o End-users should account for derivatives not qualifying for risk management treatment on a mark-to-market basis.

- o Amounts due to and from counterparties should only be offset when there is a legal right to set off or when enforceable netting arrangements are in place.

Where local regulations prevent adoption of these practices, disclosure along these lines is nevertheless recommended.

GAAP policy for thrift use of derivatives is summarized below, by type of derivative:

Swaps

Accrued settlement amounts resulting from interest-rate swaps that are used to hedge deposit liabilities increase or decrease interest expense. Gains and losses on terminated swaps are deferred and amortized over the remaining contractual term of the terminated swap. Swaps that are not used for hedging purposes are marked-to-market.

Futures

OTS requires that futures contracts be accounted for in accordance with SFAS 80. When hedging criteria are satisfied, the accounting for the futures contract is related to the accounting for the hedged item. Changes in the market value of the futures contract are recognized in income when the effects of related changes in the price or interest rate

of the hedged item are recognized. Such reporting results in deferred gains or losses. When hedging criteria are not satisfied, futures contracts are marked-to-market.

Options

Purchased options that are matched with balance sheet items are subject to hedge accounting treatment. If the option is "out-of-the-money" when purchased (for example, the strike price of a put is less than the current market price of the underlying instrument), the fee paid is recorded as an asset and amortized over the option period. When the option is "in-the-money," the portion of the fee paid equal to the difference between market and the strike price (the "intrinsic value") is deferred until the option is exercised. When the option is exercised, any gain or loss adjusts the basis of the matched item and is amortized over the life of the matched item. Unmatched purchased options are marked-to-market.

Written put options do not qualify for hedge accounting. The premium received from the sale of a put is placed on the balance sheet as cash and deferred income and the put is marked-to-market. Gains and losses on open positions are recorded as assets and liabilities, respectively. Gains increase earnings and losses decrease earnings.

A written call option does not qualify for hedge accounting. The entire option commitment fee received is deferred. There is no effect on earnings until resultant gains and losses are recognized upon termination of the option position.

11. Are thrift risk management systems adequate to address the risks posed by derivatives activities? Please differentiate between the large, well established dealers versus new entrants to the derivatives market. Is your agency developing standardized guidelines for thrift risk management systems?

As a matter of sound management policy, institutions should not use derivatives, or any other financial products, unless they understand the products and have the expertise needed to manage the risks associated with their use. The depth of expertise needed by an institution will depend on the scope of its derivatives activities and their complexity. As thrifts are end-users and not dealers in the derivatives market, their systems should be appropriate for end-users of derivatives.

Two recommendations of the G-30 report concern risk management systems that dealers and end-users of derivatives should maintain.

ommendation 17: Systems

Dealers and end-users must ensure that adequate systems for data capture, processing, settlement, and management reporting are in place so that derivatives transactions are conducted in an orderly and efficient manner in compliance with management policies. Dealers should have risk management systems that measure the risks incurred in their derivatives activities including market and credit risks. End-users should have risk management systems that measure the risks incurred in their derivatives activities based upon their nature, size, and complexity.

OTS concurs in this recommendation and believes that adequate systems are a basic requirement of good management. The availability of data from such systems would enable examiners to better assess the risk exposures of the institutions they examine. OTS policy directs institutions to maintain risk management systems and controls for derivatives. OTS does not believe that it is necessary to implement this recommendation by regulation.

Recommendation 18: Authority

Management of dealers and end-users should designate who is authorized to commit their institutions to derivatives transactions.

OTS concurs in this recommendation. As with any other financial transaction, management should designate who is authorized to conduct derivatives transactions. OTS policy, for example in TB-13, directs that specific individuals be authorized to conduct derivatives transactions, and that the transactions be monitored. OTS regulations for futures and options require the board of directors to authorize any trading in those derivatives and to establish internal controls on the use of those derivatives.

OTS does not believe that it is necessary to implement the recommendation by regulation. OTS policy for risk management systems for derivatives is provided in the Thrift Activities Handbook, in TB-13, TB-52, and in the futures and options regulations.

12. Does your agency require senior managers and board members to pass competency tests to ensure they are experienced in managing the risks of derivatives activities? Do you think it would be appropriate for your agency to adopt examinations similar to that required of CFTC-regulated brokers and futures commission merchants?

The OTS does not believe that it is the purview of regulators to determine for an association how many individuals should be

involved in decision making activities or how centralized or decentralized operations should be. As part of the OTS on-site examination effort, examiners evaluate the quality and competence of management and assess their understanding of the institution's interest rate risk exposure as well as their understanding of derivative products and derivatives strategies. In evaluating the quality and competence of management, examiners assess: 1) whether management adopts and enforces sound policies governing the use of derivatives, 2) how well personnel understand the risk characteristics of the derivatives in use, and 3) the adequacy and effectiveness of internal controls for limiting the risks associated with derivatives, including controls designed to prevent unauthorized transactions.

Savings institutions are end-users of derivatives and use these instruments to hedge against interest rate risk. The knowledge that they need to carry out their risk management strategies differs from that needed by brokers and futures commission merchants. Thus, requiring broker exams such as the CFTC exams is not appropriate for savings institutions.

13. Should thrifts have at least two directors that have direct experience in managing the risks associated with derivatives activities?

The OTS does not believe that it is the purview of regulators to determine for a thrift how many individuals should be involved in decision making activities or how centralized or decentralized operations should be. As part of the OTS on-site examination effort, examiners evaluate the quality and competence of management and assesses their understanding of the institution's interest rate risk exposure as well as their understanding of derivative products and derivatives strategies.

14. Under what scenario(s) could an individual thrift fail as a result of derivatives-related activities? What catastrophes in the markets could cause a derivatives-related thrift failure? Are thrifts required to formulate/simulate plans for such catastrophes?

A thrift could fail as a result of derivatives-related activity if it entered a very large derivatives position, was poorly capitalized, failed to monitor the derivative position, and the position failed completely as a hedge against a sudden large interest rate shock, or the counterparty defaulted on a large hedging position. OTS supervision and regulation work to prevent such a sequence of events and failure of controls from occurring and threatening the financial well-being of savings associations.

Thrifts are required to hold capital against derivatives positions that are in-the-money, that is, positions where the thrift expects net payments from the counterparty. Thrifts report

details on their positions in derivatives to the OTS on schedule CMR of the Thrift Financial Report. The examination process works to prevent poorly capitalized thrifts from taking large derivatives positions. Also, examiners review the internal controls and monitoring of derivatives positions of each thrift.

Thrift Bulletin 13 requires thrifts with over $500 million of assets to evaluate their overall institution value under nine interest rate scenarios, from a shock of -400 basis points in the yield curve to a shock of +400 basis points in the yield curve, in 100 basis point increments. Thrifts with less than $500 million of assets may use the results of the OTS model to determine their exposure to interest rate risk and set controls on their exposure. The OTS interest rate risk program and strategy for derivatives have been discussed in detail above.

As far as financial catastrophes leading to thrift failures, only a catastrophe in the financial markets that caused failures beyond derivative instruments would likely lead to thrift failures.

B. Thrift Derivatives Activity

1. What percentage of derivatives products are provided by thrifts (i.e., what is thrift market share)?

Thrifts do not deal in derivatives. They are end users. The notional amount of all derivatives held by thrifts is less than one percent of the size of the market reported by the International Swaps and Derivatives Association (ISDA).

On September 30, 117 thrifts, of 1822 in the industry, reported use of derivatives, with 82 reporting swaps, 20 reporting futures positions, and 43 reporting options. The notional amount of these positions totaled $57.2 billion. While notional amounts appear high, it should be remembered that the market value of a derivatives position is typically less than 5 percent of the notional amount. Also, savings associations using derivatives are attempting to reduce their exposure to interest rate risk from a large portfolio of mortgages and mortgage products. When interest rates were shocked up by 200 basis points (the stressful scenario used in the IRR rule) the economic value of the derivative positions held by thrifts reporting on Schedule CMR increased from $547 million to $911 million, an increase of $364 million.

2. Please provide a list of thrifts that offer derivatives products. Break the information down by type of derivative product, and identity of the thrifts that are considered dealers?

Does not apply.

3. Are thrift holding company derivatives activities profitable? How important are derivatives-related products to overall thrift holding company profitability?

Thrifts' holding companies submit financial statements to the OTS that include the information on derivatives required by GAAP. While examiners and policy staff review holding company Thrift Financial Reports, there is no call report information summarizing derivatives activities of holding companies beyond the information collected on the consolidated insured savings associations.

C. Concentration

1. What are the pro's and con's related to the concentration of bank derivatives activities in a handful of large money center banks?

Does not apply.

2. For each of the ten largest thrift derivatives dealers, indicate the credit exposure related to derivatives as a percentage of the thrifts capital.

Does not apply.

3. Does your agency have defined criteria that must be met before a thrift can offer derivative products? Do thrifts need to notify your agency prior to becoming a dealer in derivative products?

To date, the OTS has not authorized any thrift to deal in or broker derivative products, nor has the OTS been asked to take a position on whether such activities would be permissible for Federal thrifts.

D. Speculation

1. How does your agency define and identify speculation? Are there any rules or regulations involving thrift speculation activities using derivative products?

A primary concern of OTS with regard to derivatives is speculation. Put simply, while derivatives offer new ways to reduce risk, they also offer new ways to increase risk.

"Speculation" is an emotionally charged word that means different things to different people. We define speculation as

distinct from market manipulation, which is harmful and illegal in the futures and options markets. Here, we use the term to refer to the practice of taking on additional risk. There is the danger that insured depository institutions, or even unauthorized staff of such institutions, might use derivatives, such as interest rate futures or options, to take speculative positions.

Speculators provide a useful role by making markets more liquid and efficient. More importantly, they absorb risks that other market participants, including depository institutions, desire to transfer. For example, for an interest-rate swap to take place, a thrift attempting to hedge its interest-rate risk requires a counterparty willing to take the other side of the swap transaction. The counterparty must be willing to assume the risk that the savings association is attempting to reduce by hedging. Occasionally, a counterparty faces risks opposite those of the thrift and uses the derivative position to hedge as well. Generally, however, the counterparty must be willing to absorb risk in entering the derivative contract with the savings association.

OTS does not believe that savings associations should be permitted to use derivatives or any other financial instrument to speculate (that is, to take excessive and undue risks) with federally insured deposits. The OTS also directs savings associations to use great care in choosing counterparties for derivatives transactions.

Savings institutions that use derivatives are expected to use them as a vehicle for risk reduction. OTS rules for futures require that institutions enter only interest-rate related contracts, and use futures only to reduce interest rate risk. Institutions are not permitted to enter futures contracts for purposes other than interest rate risk reduction. Similarly, options contracts should be used only to reduce interest rate risk. OTS does not have specific regulations governing the use of swaps by savings associations. However, the Regulatory Handbook: Thrift Activities directs that management monitor the correlation of swap positions with the assets and liabilities being hedged.

2. What percentage of thrift derivative transactions are related to a) market making functions? b) speculation? c) risk arbitrage?

None.

3. To what extent do thrifts enter into derivatives contracts to hedge or square positions on their own balance sheets?

Thrifts are end users. They do not enter derivatives positions to offset broker/dealer activities.

4. What percentage of thrift derivatives transactions are entered into with a) other market makers? b) financial versus nonfinancial end-users? c) existing thrift customers? d) for the thrift's proprietary trading purposes?

All derivatives transactions are entered with the thrifts as end-users.

5. For the top derivative dealers, how important is income from derivative-related activities?

Does not apply.

E. Separately Capitalized Subsidiaries

1. What are the pro's and con's of requiring thrifts to establish separately capitalized subsidiaries to engage in derivatives activities?

Savings associations are involved with derivatives as end-users rather than as dealers. There does not appear to be any reason to require end-users to conduct derivatives transactions in separately-capitalized subsidiaries. Such a practice would make it impossible to use derivatives to hedge the risks of a savings association.

2. In providing derivatives products, to what extent does deposit insurance provide thrifts with an advantage or disadvantage over bank competitors?

Thrifts are not broker/dealers of derivatives, so this question does not apply. They use derivatives to reduce their interest rate risk from their business activities, such as mortgage lending.

GROUP II QUESTIONS

A. Separately Capitalized Subsidiaries

1. Does the OTS currently encourage or discourage thrifts from setting up separately capitalized subsidiaries to engage in derivatives-related activities? Over the past several years, how many thrifts applied to establish separately capitalized subsidiaries to engage in derivatives-related activities? Has the OTS acted on those applications? Please explain the reasons the OTS approved or denied each applications? Has the OTS encouraged thrifts to withdraw such applications?

Savings associations are involved with derivatives as end-users rather than as dealers. There does not appear to be any reason to require end-users to conduct derivatives transactions in separately-capitalized subsidiaries. Such a practice would make it impossible to use derivatives to hedge the risks of a savings association.

The OTS has encouraged Federal savings associations to establish separately capitalized subsidiaries to engage in securities brokerage activities, which could involve brokering (but not dealing in) derivatives products. The OTS has not to date approved an application for a separately capitalized subsidiary to be a dealer in derivatives products.

Over the past several years, numerous Federal savings associations have applied or submitted notices pursuant to 12 C.F.R. § 545.74(c)(4) to engage in securities brokerage activities, the vast majority of which involve selling mutual funds, common stocks, and annuities. These filings have been approved, subject to the applicant's compliance with OTS regulations and policy statements. We do not believe that the OTS, or its predecessor, the FHLBB, has received applications from thrifts to create subsidiaries that deal exclusively in derivative products.

2. How does a thrift's credit rating affect its ability to provide derivatives products to its customers? How does a thrift's credit rating affect its ability to perform market making functions in derivatives products?

Does not apply.

B. Over-the-Counter (OTC) Versus Organized Exchange

1. What percentage of the thrift derivative transactions are arranged over-the-counter (OTC) as opposed to being arranged through an organized exchange? What percentage of thrift OTC transactions are between market-makers versus OTC transactions between market-makers and their customers?

Most thrift derivative transactions are arranged over-the-counter rather than through an organized exchange. Because thrifts are end-users of derivatives, thrifts do not enter contracts as market makers or for customers.

2. What are the differences in the markets, and what special supervisory issues arise as a result of the differences in the markets?

Exchange traded contracts are used for hedging by the thrift industry, as are over-the-counter contracts. In fact, thrifts may enter exchange traded futures contracts only to reduce interest rate risk.

Over-the-counter transactions involve counterparty performance risk. The OTS program for supervision of thrift derivatives activities is described in detail in the response to question A.3. in the first group of questions.

3. To what extent does your agency interface/cooperate with exchange officials associated with thrift exchange related activities?

Thrifts are not large participants or members of exchanges. Thus, the OTS does not have much occasion to speak with the exchanges about thrift activities.

4. To what extent does your agency interface/cooperate with the Commodities Futures Trading Corporation (CFTC) and the Securities Exchange Commission (SEC) related to thrift derivatives activities?

OTS collects information each quarter from the CFTC on thrift users of the futures markets that report their positions to the CFTC. OTS consults with the CFTC on derivatives issues that affect thrifts. OTS consults with the SEC on securities and derivatives issues that affect thrifts.

5. Please identify exchange-related clearing organizations, their function and thrift membership in clearing organizations? Who performs the exchange or clearing organization function in the OTC market?

Does not apply; thrifts are not clearing members of exchanges.

6. How do the parties to a derivatives contract ensure contract performance in the OTC market?

Parties to derivative contracts can ensure performance through collateral requirements, credit ratings, third party guarantees, and by thorough examination of the counterparty's financial statements to ensure sufficient capital for performance on the contract.

Collateral requirements are used to guarantee performance on a contract. Collateral is important when there is some chance that a counterparty may default on a contract. Savings associations are required to restrict their choice of counterparties to banks and well-capitalized nonbank counterparties. If a savings institution believes that there is a significant chance that a counterparty may not perform on a derivative contract, the institution should request collateral from the counterparty to guarantee performance.

While collateral or a third party performance guarantee may sometimes be desirable to ensure performance on a derivative contract, excessive collateral requirements might discourage the use of derivatives for risk reduction purposes. Moreover, mandatory collateral requirements could reduce liquidity in the derivatives markets and raise the cost of risk management.

C. Trusts

1. How many derivatives products (quantity and notional value) do dealer thrifts sell to their existing discretionary trust customers? nondiscretionary trust customers? What is the income from those transactions?

Does not apply.

2. Are there any rules governing the sale of derivative products to a thrift's discretionary or nondiscretionary trust customers?

Does not apply.

3. In your opinion, is it a conflict of interest for a thrift to sell derivatives products to its discretionary or nondiscretionary trust customers?

Does not apply.

D. No questions submitted.

E. Trading Accounts and Chinese Walls

1. For the top ten thrift derivatives dealers for the past five years, please provide trading assets and trading profits?

Does not apply.

2. For those same thrifts over the same period of time, what percentage of each thrifts assets are trading assets and what percentage of total profits are derived from trading profits?

Does not apply.

3. To what extent are there legal and physical barriers erected between thrift proprietary trading activities and a thrift's customer-related derivatives activities?

Does not apply.

4. In trading for their own proprietary accounts, to what extent do dealer thrifts use information gleaned from customer-related derivatives activities?

Does not apply.

F. Taxes

1. Please comment on the feasibility and implications of levying a tax on speculation-related derivative transactions.

Speculators provide a useful role by making markets more liquid and efficient. Speculation should not be confused with market manipulation, which is harmful and illegal in the futures and options markets.

Speculators absorb risks that other market participants, including depository institutions, desire to transfer. For example, for an interest-rate swap to take place, a thrift attempting to hedge its interest-rate risk requires a counterparty

willing to take the other side of the swap transaction. The counterparty must be willing to assume the risk that the savings association is attempting to reduce by hedging. Occasionally, a counterparty faces risks opposite those of the thrift and uses the derivative position to hedge as well. Generally, however, the counterparty must be willing to absorb risk in entering the derivative contract with the savings association.

OTS does not believe that savings associations themselves should be permitted to use derivatives or any other financial instrument to speculate (that is, to take on additional risks) with federally insured deposits. The OTS also directs savings associations to use great care in choosing counterparties for derivatives transactions.

We defer to the Department of Treasury to address the appropriateness of a special tax on derivatives.

DERIVATIVE PRODUCT ACTIVITIES OF SAVINGS ASSOCIATIONS

A Study Conducted in Response to Questions Raised by Senator Riegle on Derivative Products

Office of Thrift Supervision
March 1993

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I. Introduction and Summary

Derivative products have become an integral part of the financial system. Many financial institutions use them to manage the risks of doing business. The wide use of derivatives has caused concern that default or misuse of the products may have consequences reaching beyond the immediate user into other parts of the financial system.

OTS conducted this study in response to questions from Senator Riegle in a December 11, 1992 letter. This study describes the use of derivatives by savings associations and OTS supervision of their use. Although Senator Riegle's questions concentrated on what we have termed off-balance-sheet derivatives (such as futures, options, swaps), we have expanded the study to include mortgage derivative products because of their importance in some savings associations' portfolios.

The key findings and observations of the study are:

- If used properly, derivatives can help savings associations reduce their exposure to interest rate risk and improve safety and soundness.
- Derivatives can be a source of risk if they are used for speculative purposes or if they are used improperly. Institutions that do not have the technical expertise to understand derivatives and monitor their performance should not use them.
- Most savings associations that use derivatives have used them safely. Based on a survey of OTS examiners, derivatives contributed to less than two percent of failures in the last five years, but were rarely a primary cause of failure.
- Roughly half of all large savings institutions (assets over $1 billion) use off-balance-sheet derivatives; less than one percent of the small institutions (assets less than $100 million) use them.
- Interest rate swaps are the most popular of the off-balance-sheet derivatives in the industry. Few institutions use options or futures.
- Mortgage derivatives are held by 42 percent of savings institutions. Seventy percent of the largest savings associations and 28 percent of the smallest associations hold mortgage derivatives.
- Most of the mortgage derivatives held by savings associations are low-volatility bonds, which carry less price risk than mortgage loans. Holdings of low-volatility bonds have tripled over the last four years, while holdings of high-volatility bonds have declined by more than 50 percent.
- Derivatives and complex derivative strategies have made the financial statements of heavy users of derivatives less transparent and nearly impossible to analyze without the aid of a computer.
- In March 1993, OTS will update its interest rate risk model and data reporting system to significantly enhance OTS' ability to monitor the use of derivatives by savings associations.

II. Overview

A derivative product's value depends on the value of something else. The "something else," which is referred to as the "underlying," may be a commodity, a security, a currency, an index, an interest rate, or a pool of mortgages. Derivatives include a wide variety of equity, fixed-income, foreign exchange, and commodities products. The most common derivatives are futures, forwards, options, and swaps. Derivatives also include securities that are created from other securities, such as collateralized mortgage obligations (CMOs) and stripped mortgage-backed securities, both of which are created from pools of mortgage loans and mortgage-backed securities. Because mortgage derivatives are an important product in the thrift industry, this study uses this expanded definition.

Innovation and Growth

Derivative financial products are used primarily to manage risk. Derivatives allow institutions to offer borrowers the type of loans they want and to transfer some of the risks of these loans to investors who are able to bear them. For example, many home buyers prefer 30-year fixed-rate mortgages, but this type of mortgage carries many risks, including fixed interest terms, a 30-year amortization schedule, and penalty-free prepayment privileges. Lenders may be willing to incur some but not all of these risks. Derivatives allow lenders to transfer these risks to others. The demand for these instruments has grown exponentially over the last two decades largely in response to increased foreign exchange and interest rate volatility.

In the early 1970s, increased exchange rate volatility caused the breakdown of the Bretton Woods system of fixed foreign exchange rates. The financial markets created ways to manage the new financial risks. Futures contracts on foreign exchange, currency swaps, and option contracts on foreign exchange were all introduced between 1972 and 1984 to facilitate the management of foreign exchange risk.

In the late 1970s a dramatic increase in interest rate volatility created a demand for additional risk management products. On October 6, 1979, the Federal Reserve began to target money supply growth instead of interest rates to choke off inflationary pressures that had been building in the economy. As money growth was reigned in, interest rates rose dramatically, with short-term rates exceeding 19 percent in early 1981. The volatility of interest rates also increased and remained high. The need for better and more varied tools for managing and controlling interest rate risk was clear. The markets responded to that need with a host of new derivative instruments to manage interest rate risk, including many new financial futures contracts, options on futures, forward rate agreements, interest rate swaps, and interest rate caps, floors, and collars.

The mortgage market was among the hardest hit by the dramatic rise in interest rates. Throughout the 1980s, innovation in the secondary mortgage market spawned a new breed of instruments to manage that risk, collectively known as mortgage derivative products. Mortgage derivatives are created by reallocating cash flows from existing mortgage pass-through securities and pools of mortgage loans into newly created instruments. Mortgage derivatives include collateralized mortgage obligations (CMOs), real estate mortgage investment conduits (REMICs), and stripped mortgage-backed securities.

Using the CMO structure, for example, Wall Street's financial engineers can "slice and dice" the principal and interest cash flows from pools of mortgages into separate bonds, or "tranches," each with different risk and return characteristics. By carving up cash flows into

different tranches, financial engineers reallocate the risk of the underlying mortgages among the tranches in the CMO structure. Some of the resulting tranches are high-risk, some moderate-risk, and some low-risk. A wide variety of instruments can be created to suit the needs and preferences of different market participants. Innovation in this area has greatly increased the range of products available to investors as well as the demand for mortgage production. The increased demand has benefited consumers by lowering the cost of a mortgage loan.

The growth of the market for derivative financial products has been rapid, not only in terms of the variety of the products offered, but also in terms of the size and liquidity of the markets. Estimates place the notional amount of off-balance sheet derivatives at nearly $8 trillion as of year-end 1991. Of this amount, interest rate swaps accounted for the largest share, about $3 trillion, according to the International Swap Dealers Association. Futures exceeded $2 trillion, and options exceeded $1 trillion. Wall Street estimates place the size of the CMO market at over $600 billion.

The enormous size of the derivatives market reflects the broad range of applications for these products as well as their wide acceptance by financial institutions, institutional investors, and corporate treasurers.

Risk Management

The thrift industry uses derivatives primarily to manage and control interest rate risk and mortgage prepayment risk. In principle, an institution can manage and control these risks without the use of derivatives by changing the structure of its asset and liability portfolios. In practice, changing the lines of business or the structure of the portfolio is often cumbersome and expensive. Derivatives can make risk management less costly. Moreover, derivatives make it feasible for banks and savings associations to make loans with maturities and pricing characteristics that they otherwise would not make because of risk considerations.

As specialized financial intermediaries, savings associations gather funds, mostly short-term deposits, and make long-term mortgage loans. Borrowing short and lending long creates an imbalance, or "mismatch," between the sensitivity of an institution's portfolio of assets and liabilities to changes in interest rates. A severely mismatched balance sheet exposes an institution to significant interest rate risk.

A savings association, for example, might be concerned about the risk of making long-term, fixed-rate mortgages in today's environment. Typically, it is constrained to funding the loans with relatively short-term deposits. Because a rise in interest rates would cause the institution's funding cost to increase and put downward pressure on earnings, it might decide to avoid fixed-rate mortgages altogether and limit new loans to adjustable-rate mortgages.

With derivatives, however, the institution can continue to make and hold fixed-rate mortgage loans. It can use derivatives to transfer the unwanted interest rate risk associated with the fixed-rate loans to someone willing to bear that risk. Alternatively, the institution could sell the mortgages to someone else who, because of the existence of derivatives, is willing to hold a greater volume of fixed-rate loans than they otherwise would.

Indeed, it was the thrift industry's outsized exposure to interest rate risk in the late 1970s and early 1980s that precipitated the thrift crisis. Until the late 1970s, interest rates were relatively stable, and the average rate paid on savings deposits rarely rose above the rate earned on mortgages. As a result, borrowing short and lending long worked reasonably well.

When interest rates surged in the late 1970s and early 1980s, however, the industry experienced sharply higher funding costs. Industry profitability plunged and turned negative in 1981 and 1982. Accounting losses for the 1981-82 period totaled $8.9 billion; but, on a mark-to-market basis, the losses to net worth were far greater, with some estimates exceeding $150 billion. The S&L industry was market-value insolvent. Many savings and loans decided their best chance for returning to profitability was to grow rapidly and take on riskier investments permitted by the Garn-St Germain Act of 1982.

The 1979-82 episode underscored the dangers of interest rate risk in the thrift industry and prompted institutions to strengthen interest rate risk monitoring and control systems, tighten exposure limits, and explore new techniques and methods for managing exposures. Savings associations began using derivative products to manage their exposure to interest-rate risk. By September 30, 1992 nearly half the industry was using mortgage derivative products, although relatively few institutions have used off-balance-sheet derivatives such as futures, options, and swaps.

Derivatives: Problem or Solution?

Should depository institutions be allowed to use derivatives to manage and control risk? Is the economic benefit of using these products significantly less than the risk of not using them? The question of whether derivatives should be avoided or embraced has been debated widely. The debate focuses on two areas: systemic risk and institution/end-user risk.

Systemic Risk

Much of the concern with derivatives appears to revolve around potential disaster scenarios involving major money center commercial banks and investment banking firms that act as dealers in the vast over-the-counter (OTC) derivatives market. In part, the concern emanates from the sheer size and rapid growth of the OTC market and the potential for systemic risk as interbank markets and wholesale markets become more intertwined. Some participants have voiced concern that disruptions in one market, such as might be triggered by the default of a major counterparty, could spread to other markets, and in a worst-case scenario cause a collapse of the global financial system.

It should be noted that these concerns are generally not about the characteristics of derivative products per se, but rather about the position risk of dealers in these products, the depth and liquidity of the OTC derivative markets, the uncertainty over how markets might respond to market disturbances, and whether central banks and government authorities could respond quickly enough to avert a crisis.

Institution Risk

Are financial derivatives useful risk management tools, or are they themselves a source of risk that should be avoided? Institution risk arises from the complexity of some derivative products that may lead to their inappropriate use. Critics of derivative products maintain that derivatives can be used safely only by the most sophisticated financial professionals. Others maintain that most derivative products are relatively simple, and can be understood by anyone willing to put forth the effort. Moreover, they contend that a financial institution that does not consider using these products puts itself at a disadvantage.

While the wide range of derivative products makes it difficult to generalize about each instrument's risk, it is important to recognize that "risk" is properly a portfolio concept. The primary "risk" that one needs to be concerned about is not the riskiness of a particular financial instrument on a "stand-alone basis," but rather its contribution to portfolio risk, that is, the incremental increase or decrease in risk to an entire portfolio that results from its

inclusion in that portfolio. Thus, the addition of a particular derivative product to the portfolio of Thrift A, for example, could increase its overall risk, while the addition of the same derivative to Thrift B's portfolio could decrease its risk. It is the contribution to portfolio risk, not the risk of the instrument itself, that ultimately matters.

Considerations of portfolio risk aside, it should be apparent that any institution that uses a derivative financial product, or any other investment tool or product, must have a thorough understanding of the product, including its risk/reward characteristics and how it is valued in the marketplace. While some derivatives are relatively simple instruments, others are highly complex. Institutions that do not have the technical expertise to understand these products and monitor their performance should not use them.

Supervision and Regulation of Derivatives by OTS

One goal of the OTS interest rate risk program is the supervision and regulation of institutions' use of derivatives to ensure that savings associations control their exposure to interest rate risk in a safe and sound manner. Consistent with that goal, OTS limits the use of derivative financial products by savings association to risk-reducing activities. OTS policies prohibit speculative use of these products.

OTS has a three-part program for ensuring that savings associations that use derivatives do so in a safe and sound manner. That program consists of on-site examinations, off-site monitoring and surveillance, and prudential rules and regulations.

OTS uses an interest rate risk model to conduct off-site monitoring and surveillance of derivatives, and, more generally, to monitor the interest rate risk exposure of savings associations. The OTS model uses information from the Thrift Financial Report (TFR), filed quarterly by savings associations, to estimate exposure. The TFR contains financial data, including information on derivatives, that are used as input for the model. OTS recently revised the TFR to collect more detailed information on derivative products.

OTS also requires institutions with $500 million or more in assets and any institutions that hold "high-risk" mortgage derivative products to have an interest rate risk model. Moreover, savings associations that use "high-risk" mortgage derivative products must, prior to purchase, conduct a scenario, or sensitivity, analysis that demonstrates the effect of the product on the institution's overall risk. An institution may use these products only if it can demonstrate that the particular product will reduce portfolio risk.

III. Risks and Rewards of Derivative Products

The derivatives used by savings associations fall into two groups, off-balance-sheet derivatives and mortgage derivatives. The off-balance-sheet group includes futures, options, swaps, forwards, and related instruments such as caps, floors, collars, and swaptions. Savings associations use off-balance-sheet derivatives to reduce the risk of loss from interest rate movements. Because savings associations are primarily mortgage lenders that fund their business with short-term liabilities, they can be exposed to significant interest rate risk. Savings associations use off-balance-sheet derivatives to reduce that risk, either by lengthening the duration of their liabilities or shortening the duration of their assets. That is, they use derivatives to reduce the mismatch of their assets and liabilities.

The variety of off-balance-sheet derivatives has grown with the demand for interest rate risk management. Instruments such as futures, forwards, and swaps may have negative as well as positive returns. Options and option-like instruments such as caps, floors, and swaptions, give the buyer the prospect of a positive return but no losses beyond the initial cost. A savings association may use either, or both, types of off-balance-sheet derivatives to manage its specific risks.

The mortgage derivative products group includes collateralized mortgage obligations (CMOs), interest-only strips (IOs) of mortgage cash flows, principal-only strips (POs), and residuals from CMOs.[1] Most mortgage derivative products are tranches of CMOs. CMOs reorder the cash flows from the underlying pool of mortgages to fit the investment strategies of investors. Savings associations use CMOs primarily as investments. A typical CMO held by savings associations is a short-term fixed-rate bond that has a well-determined set of cash flows even if the mortgages underlying it prepay faster or slower than expected. These bonds include securities called short-term sequential tranches and short-term PAC tranches.

More volatile mortgage derivatives include long-term tranches of CMOs, support tranches that absorb the prepayment risk transferred from short-term PAC tranches, IOs, POs, and residuals. These securities generally have both higher prepayment risk and higher interest rate risk than the underlying mortgages. However, strategic purchases of these securities can reduce interest rate risk in a savings association. For example, IO tranches typically increase in value as interest rates rise, a feature than can reduce the risk in a savings association exposed to rising interest rates.

Benefits from Using Derivative Products

Savings associations use derivative products to manage risk. Unlike some large commercial banks, savings associations are not "market-makers" or dealers of derivative products; they are end-users. As end-users, savings associations are not exposed to some risks faced by market makers or dealers.

Appropriate use of derivative products to manage interest rate risk and other risks can result in greater stability of profits, and improve the safety and soundness of a savings association. Most savings associations that have used interest rate risk reduction strategies have lowered their exposure to interest rate risk. For instance, institutions that used derivatives to reduce exposure to rising rates gained substantially from that practice when rates shot up in mid-1987. Savings associations have tripled their holdings of low-volatility "low-risk" mortgage derivatives in the last 4 years, while reducing their holdings of "high-risk" mortgage derivatives by more than half.

Part of the benefits from successful use of derivatives accrue to the consumers whose loans the savings associations finance. An institution may not want to offer products that consumers demand, because they would increase its interest rate risk. For example, when interest rates become more volatile savings associations may be reluctant to offer fixed-rate mortgages to borrowers. Through the proper use of derivatives to hedge their portfolios, savings associations can offer fixed-rate loans to homebuyers and yet maintain an acceptable level of interest rate risk.

Additionally, the popularity of mortgage derivative products has created greater demand by investors for mortgages. The strong investor demand for mortgages has also led to a lower rate for homebuyers on their loans.

Mortgage derivatives can also improve a savings association's ability to diversify risks. For example, a savings association could buy a floating-rate support tranche that would decrease its interest rate exposure although it may result in increased prepayment volatility.

Risks from Using Derivative Products

Used wisely, derivative products reduce interest rate risk in a savings association more efficiently and effectively than is possible with other instruments. But, they have their own risks. These risks can include: risks from improper hedging, prepayment risk, counterparty credit risk, operating risk, and systemic risk.

In addition to these risks, an institution may attempt to gamble on the direction of interest rates, or take on additional interest rate risk with derivatives. Such speculative use of derivatives is forbidden by OTS. Regulations and the examination process are designed to prevent savings associations from using derivatives for risk-increasing purposes.

Risks from Improper Hedging

Savings associations generally use off-balance-sheet derivatives to manage overall interest rate risk. At times, however, institutions may use derivative products to reduce exposure to interest rate risk from specific assets or liabilities. While an attempt to reduce exposure to risk from a specific asset or liability can reduce or eliminate the risk of loss from that particular asset or liability, it could actually increase the overall risk to the institution. OTS emphasizes to savings associations that they must consider institution-wide risk in their risk management programs.

Another source of risk is lack of understanding of how a derivative instrument or the portfolio it is intended to hedge is likely to perform in varying interest rate environments. A savings association that desires to reduce its overall interest rate risk, might use the wrong instrument to accomplish the goal, or use the instrument improperly. For example, a strategy of using futures to hedge a mortgage portfolio might work for hedging small changes in interest rates, but fail for larger rate changes if the institution does not modify the structure of the hedge as rates change. Mortgage prepayments increase at an increasing rate as interest rates fall. Thus, the price of a pool of mortgages increases at a decreasing rate as interest rates fall. For example, if interest rates drop from 9 percent to 8 percent, a given pool of mortgages may increase in value by 5 percent. However, if rates continue to fall, down to 7 percent from 8 percent, the pool of mortgages may only gain an additional 3 percent in value because of homeowners prepaying their mortgages. If a savings association uses a constant number of futures contracts to offset interest rate changes, it may exactly offset the first drop

in rates, but find that its losses on futures are double its mortgage gains for the second change in rates. Once a risk-reducing strategy is begun, it must be monitored to ensure that it remains effective.

Another possibility an institution should take into account is that short-term rates may rise while long-term rates fall, or vice versa, a so-called non-parallel shift in the yield curve. These shifts are more common than the typically assumed parallel shift (equal changes in short-term and long-term rates) and can affect the performance of derivative products.

Successful risk reduction can be impeded by an illiquid market for the interest rate risk reduction instrument. The bid/ask spread is typically used to measure the liquidity of the market for a financial product. The bid/ask spread is the difference between the price that an end-user must pay for a product (the ask), and the price at which it could immediately resell the product (the bid). If the bid/ask spread is wide the market is illiquid. If a gain on a hedging instrument is lost through market illiquidity, the benefit of the hedge is lost. The OTS requires institutions using certain products to be aware of and to measure the risk from illiquidity.

Prepayment Risk

Some mortgage derivative products can be subject to significant prepayment risk. This risk arises when the mortgages underlying the derivative prepay faster or slower than expected. Interest rates affect prepayment risk, but other factors do as well, making it difficult to control. Some mortgage derivatives have little or no prepayment risk. Planned amortization classes (PAC tranches) of CMOs are largely protected against changes in prepayments and have well defined principal and interest payment schedules. A savings association wishing to reduce its prepayment risk may choose to diversify its holdings into PAC tranches of CMOs rather than accumulate additional mortgage loans. Other mortgage derivatives, such as support tranches, have higher prepayment volatility. Savings associations' use of mortgage derivatives with high prepayment volatility is limited to derivatives that successfully reduce overall interest rate risk.

Counterparty Risk

Counterparty risk is the risk that the counterparty in a derivative product contract may default. Counterparty risk is negligible for exchange traded contracts such as futures and many options. Clearinghouses guarantee performance on such contracts, and mark them to market daily. Over-the-counter derivative products, however, may present savings associations with counterparty risk.

OTS-regulated institutions have not reported losses from counterparty default in the last 5 years. Despite the low level of losses from counterparty default, savings associations are required to hold capital against that risk.

Operating Risk

Savings associations occasionally face the risk that a manager will use derivative products without the knowledge and approval of the chief financial officer and directors. Savings associations should follow an overall plan and constantly monitor interest rate risk management activities if they are to use derivative instruments effectively.

Savings associations are expected to monitor their interest rate risk and set internal limits on exposure to risk to comply with Thrift Bulletin 13 (TB 13). TB 13 addresses operating risk by providing guidance to savings associations on the internal policies, practices, and procedures with regard to interest rate risk.

Systemic Risk

Disaster scenarios involving major money center commercial banks and investment banking firms that act as dealers in the vast over-the-counter (OTC) derivatives market have created much concern. In part, the concern emanates from the sheer size and rapid growth of the OTC market and the potential for systemic risk as interbank markets and wholesale markets become more intertwined. Some participants have voiced concern that disruptions in one market, such as might be triggered by a counterparty default, could spread to other markets, and in a worst-case scenario cause a collapse of the global financial system.

It should be noted that these concerns are generated not by the characteristics of derivative markets per se, but rather by the position risk of dealers in these products, the depth and liquidity of the OTC derivative markets, the uncertainty over how markets might respond to market disturbances, and whether central banks and government authorities could respond quickly enough to avert a crisis.

As discussed in the following chapter, OTS as a regulator of savings associations, exercises its authority in an effort to ensure that savings associtions that use derivatives do not become a source of systemic risk.

1/See the appendix for a glossary of terms used in this study that are common in the derivative product markets.

IV. Supervision and Regulation of Derivative Activities of Savings Associations

The enormous size of the derivatives market and the complexity of some of the new instruments have raised concerns among some market participants and regulatory authorities.

Savings associations are not dealers in the derivatives markets; therefore, OTS is not involved in formulating prudential rules or standards governing dealers in these markets. Although the prevention of systemic risk in the derivative markets does not fall within the purview of OTS, as a regulator of savings associations, OTS exercises its authority in an effort to ensure that savings associations that use derivatives do so in a safe and sound manner.

In exercising that authority, OTS has taken a number of initiatives with respect to the prudent use of derivative products by savings associations. In large part, these initiatives are governed by the following five principles.

(1) The risk of derivatives should be viewed in terms of their contribution to the overall risk of an institution's portfolio, not in terms of their riskiness on a stand-alone basis. It is the contribution to an institution's risk, not the risk of the instrument itself, that ultimately matters.

(2) Effective risk management minimizes problems related to the use of derivatives. Consequently, institutions should not use derivatives unless they understand the instruments and establish effective systems for monitoring and controlling their use.

(3) The use of derivatives should be strictly limited to risk reducing activities.

(4) The risk-based capital framework should be modified to provide incentives to control interest rate risk. At present, the risk-based capital requirements focus solely on credit risk and, therefore, may provide an incentive for institutions to substitute interest rate risk for credit risk. To be effective, capital requirements must distinguish among institutions with different levels of interest rate risk exposure.

(5) Unnecessary regulatory impediments to the use of derivatives should be avoided so as not to discourage qualified institutions from using these products to reduce risk. (Some bank and thrift executives contend that they do not use derivatives to hedge risk exposures because they fear that any institution that uses these products will receive increased regulatory scrutiny.)

The OTS has a three-part program designed to ensure that savings associations that use derivatives do so in a safe and sound manner. That program consists of on-site examinations, off-site monitoring and surveillance, and prudential rules and regulations.

On-Site Examination

OTS examiners play an essential role in ensuring that savings associations use derivative products in a safe and sound manner. With respect to derivatives, the objectives of the examination process are to:

(1) Determine whether the institution complies with OTS policies with respect to the management and control of interest rate risk. This includes (a) making a determination of whether the interest rate risk exposure limits set by the institution are prudent and whether the institution is operating within those limits, and (b) identifying weaknesses, if any, in the institution's systems for interest rate risk measurement, reporting, and control. (OTS policies on interest rate risk management are contained in Thrift Bulletin 13, which is included as Appendix C to this study.)

(2) Determine whether the institution complies with OTS policies and regulations on futures, options, and mortgage derivative products.

(3) Evaluate the quality and competence of management and assess their understanding of the institution's interest rate risk exposure as well as their understanding of derivative products and derivative strategies.

(4) Initiate corrective action as necessary.

Each regional OTS office has examiners and supervisory staff with specialized expertise in derivative instruments and interest rate risk. These specialists, along with the OTS' Risk Management staff in Washington, D.C., are available to provide assistance to examiners as needed.

Extensive training is offered to examiners on derivatives, interest rate risk, and asset/liability management. OTS training in these areas is described in Chapter VI of this study.

Off-Site Surveillance and Monitoring

Complex transactions have made financial statements less transparent and, therefore, more difficult to analyze. It has become nearly impossible to evaluate the financial position of firms that are heavy users of derivatives without the aid of a computer model.

From a supervisory standpoint, complex transactions, both on and off the balance sheet, have increased the need for off-site computer-based risk monitoring systems to support and supplement the work of examiners.

In addition, the proliferation of new types of derivatives has created a need for more flexible supervisory data collection systems. In March 1993, OTS will update its interest rate risk model and data reporting system to significantly enhance OTS' ability to monitor the use of derivatives by savings associations.

OTS Interest Rate Risk Model

OTS developed a relatively sophisticated computer model, which it began using in early 1991 to measure and monitor the interest rate risk exposure of individual savings associations and the industry as a whole. OTS uses the model to generate Interest Rate Risk Exposure Reports for examiners and for each institution's use. The Exposure Reports contain detailed estimates of the interest rate sensitivity of an institution's assets, liabilities, and off-balance sheet contracts over nine different interest rate scenarios. (A sample Exposure Report is presented in Appendix C of this study.)

As noted above, OTS will introduce a new version of the model based on a new reporting form, Schedule CMR, in March 1993. The revised model will evaluate more precisely the interest rate sensitivity of a wide range of derivatives. The information on the sensitivity of derivatives that will be in the new Exposure Report is shown in Appendix D.

Improvements in Derivatives Data Collection

With the new Schedule CMR, savings associations report detailed information on their derivatives including interest rate swaps, caps, floors, futures, options on futures, and mortgage derivatives.

A new coding system will facilitate the reporting of derivatives. All off-balance sheet derivatives are identified by a four digit contract code. The first two digits designate the general type of contract. For example, all codes for interest rate swaps begin with the two digit code "50." The last two digits of the code designate the specific type of contract. For example, a fixed-for-floating rate swap where the floating-rate is based on 3-month LIBOR is designated by the code "5004." If the swap were based on the 3 month Treasury rate, it would be designated by the code "5010." Institutions also report the notional amount of the contract, its maturity date, and other relevant information such as the contract rate, margins, or fees. This system will accommodate new varieties of derivatives as they are developed.

Using these data, OTS estimates the value of each reported derivative under the current interest rate environment and in alternate interest rate scenarios, providing a picture of their impact on the interest rate risk of the reporting institution.

Prudential Rules and Regulations

OTS regulations and policy statements that govern the use of derivatives are summarized below. They include (1) the risk-based capital requirements, (2) Thrift Bulletin 13, a policy statement on interest rate risk, (3) Thrift Bulletin 52, a policy statement on mortgage derivative products, and (4) OTS regulations on futures and options.

Risk-Based Capital Requirements

The existing OTS risk-based capital requirements require savings associations to hold capital to absorb potential losses on derivative instruments. The existing requirements, however, focus on the credit risk of derivatives and largely ignore their contribution to the interest rate risk exposure of the institution.

Under the existing risk-based system, depository institutions have strong incentives to identify assets and strategies with the most attractive yield-to-capital tradeoffs. In essence, this means that, to maximize value, institutions are tempted to acquire those assets and adopt those strategies that generate the highest expected return per dollar of required regulatory capital. Institutions gravitate toward assets and strategies — including off-balance sheet derivatives and derivative strategies — with the least capital charge relative to risk. Since the existing capital framework does not specifically address interest rate risk, strong incentives exist to seek higher yields by substituting interest rate risk for credit risk.

To address this flaw, OTS intends to incorporate an interest rate risk component into its risk-based capital rule. The interest rate risk component is expected to be adopted by June 1993 and become effective in early 1994. Under the new rule, an institution's capital requirement would be directly related to its overall interest rate risk exposure. Thus, an institution's overall interest rate risk exposure would be taken into account in determining its capital requirement.

Thrift Bulletin 13

Issued in 1989, the Bulletin advises institutions to set interest rate risk exposure limits and describes the internal policies, practices, and procedures to which OTS expects institutions to adhere in managing their interest rate risk exposure.

OTS requires any institution with $500 million or more in assets and any institution that holds "high-risk" mortgage derivative products to have an interest rate risk measurement system. The measurement system must be capable of measuring the effect of changes in interest rates on the institution's net interest income and Market Value of Portfolio Equity (MVPE). The emphasis on MVPE ensures that the analysis is conducted in a portfolio context and that all financial derivative products are taken into account.

Thrift Bulletin 52

Thrift Bulletin 52 (TB-52) governs investments by savings associations in mortgage derivative products. This Bulletin sets out a 3-part test to determine whether a specific mortgage derivative would be considered a "high-risk" derivative. A savings association may purchase a high risk derivative only if can demonstrate that the purchase will reduce the overall interest rate risk of the institution.

TB-52 also requires savings associations that invest in mortgage derivatives to establish effective policies and procedures governing their use.

Futures and Options Regulations

OTS restricts the use of futures contracts by savings associations to activities that will reduce interest rate risk. Savings associations are also restricted in their choice of counterparty for options and must hold capital for counterparty risk on all over-the-counter options that are "in-the-money." Additionally, savings associations are directed to develop appropriate management and control policies for futures and options use, and must notify their regional OTS office before they begin a futures or options program.

Responsibilities of Management

OTS guidance to institutions emphasizes the importance of management in minimizing potential problems arising from the use of derivatives. OTS believes that institutions that use derivatives should:

(1) adopt, and vigorously enforce, written policies governing the use of derivative products;

(2) consider the level of expertise needed to implement a strategy involving derivative products, and ensure their personnel understand the risk characteristics of the products;

(3) establish internal controls to ensure adherence to policies and procedures and prevent unauthorized investment and other abuses;

(4) perform a sensitivity analysis, or simulation analysis, prior to taking a position in derivatives to better understanding of how the derivatives might affect their institution's overall performance under different scenarios; and

(5) ensure that derivative transactions involving counterparty risk are undertaken only with financially strong counterparts.

V. Use of Derivatives by Savings Associations Industry Trends and Developments

Less than half of all savings associations use derivative financial products. About 42 percent of the savings institutions use mortgage derivatives, while less than 8 percent use off-balance sheet derivatives.

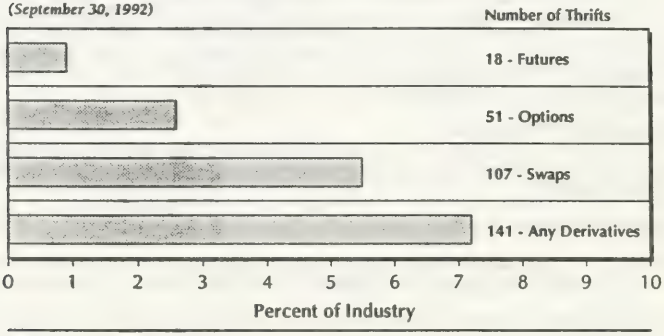
Off-Balance-Sheet Derivatives

Interest rate swaps are the most common type of off-balance sheet item used by savings associations (107 institutions). Few institutions hold options (51 institutions) or futures (18 institutions) (figure 1).

FIGURE 1

Few Savings Associations Hold Off-Balance-Sheet Derivatives

(September 30, 1992)



Source: OTS Thrift Financial Reports

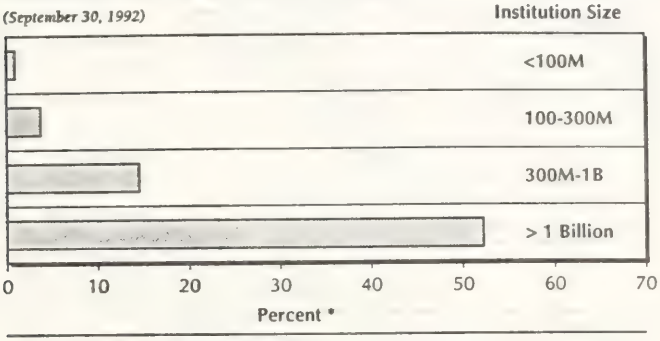
The notional amount of off-balance-sheet positions of savings associations was $44 billion as of September 30, 1992. The largest institutions are the primary users of off-balance-sheet derivatives. Less than one percent of institutions with under $100 million in assets use off-balance sheet derivatives, but more than one-half of those with assets exceeding $1 billion use them (figure 2).

About five percent of the industry, 107 savings associations, had swap transactions outstanding as of September 30, 1992, with a total notional amount of $30 billion. Although the notional amount of swaps outstanding is large, the notional amount is not a meaningful measure of risk exposure, because it says little about their economic value.

FIGURE 2

Large Savings Associations Use Off-Balance-Sheet Derivatives More than Small Associations

(September 30, 1992)



* Percent of size group using OBS Derivatives

Source: OTS Thrift Financial Reports

The notional amount of options positions held by the industry totaled $7.7 billion at the end of the third quarter of 1992. Long options positions involve no risk of loss beyond the purchase price, although any over-the-counter options are subject to counterparty risk. Short options positions have no counterparty risk, but potentially large volatility. Savings associations hold nearly three times as many long options positions as short options positions.

Futures positions of the industry totaled about $6 billion in notional amount. Because futures contracts are marked-to-market daily, and payments are guaranteed by the clearing-house, there is virtually no counterparty risk.

Industry holdings of off-balance-sheet derivatives have shown no clear trend over the past 4 years. Total notional amount of off-balance-sheet derivatives fell from $50 billion in December 1989 to less than $40 billion in December 1991, before rising back to about $44 billion in September 1992 (figure 3).

Mortgage Derivatives

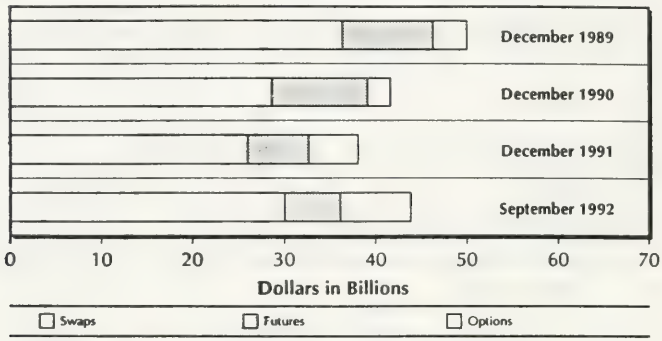
About 42 percent of savings associations hold mortgage derivative products, mostly CMOs (figure 4). While many savings associations hold mortgage derivatives, the average size of those holdings is relatively small. The total value of savings association holdings of mortgage derivative products is about $35 billion. Mortgage derivatives account for 6 percent of the assets of the institutions that hold them. By contrast, institutions holding mortgage derivatives hold 72 percent of their assets as mortgages or mortgage pass-through securities (figure 5).

Almost 90 percent of mortgage derivatives held by savings associations are in short-term fixed-rate CMOs and floating-rate CMOs. These securities carry significantly less interest-rate and credit risks than fixed-rate mortgages.

FIGURE 3

Off-Balance-Sheet Derivative Instruments *

(Notional Amount)



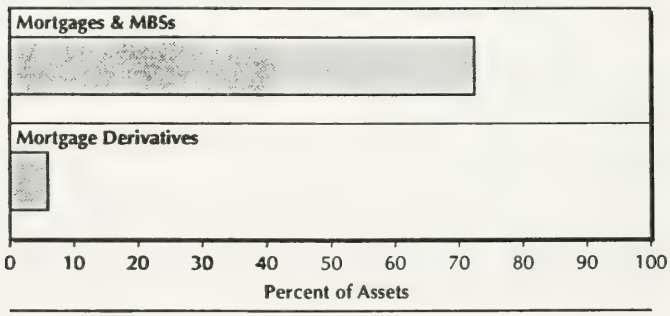
* Financial data for thrifts operating throughout the four-year period.

Source: OTS Thrift Financial Reports

FIGURE 4

Thrifts Holding Mortgage Derivatives Have a Small Investment in them compared with Mortgages & Mortgage-Backed Securities

(September 30, 1992)

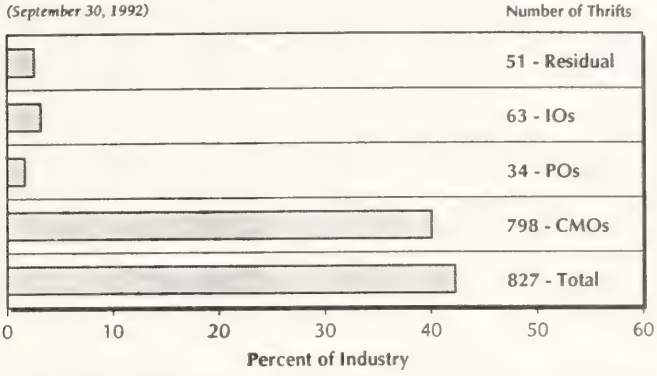


Source: OTS Thrift Financial Reports

FIGURE 5

Many Thrifts Hold CMOs, But Few Hold Other Mortgage Derivatives

(September 30, 1992)



Source: OTS Thrift Financial Reports

Under an interagency policy statement issued by the Federal Financial Institutions Examination Council (FFIEC), federal bank and thrift regulators classify mortgage derivative securities as "high-risk" or "low-risk" according to a 3-part test which measures the volatility of the securities. The terms "high-risk" and "low-risk" may be somewhat misleading in that they measure the volatility of the securities on a stand-alone basis. "High-risk" securities can be used to lower the overall interest rate risk exposure of an institution. Moreover, savings associations generally are not permitted to hold "high-risk" mortgage derivatives unless they can demonstrate that the securities reduce their overall interest-rate risk exposure.

Stripped mortgage-backed securities are created by separating the mortgage principal and interest payment on pass-through securities into securities that receive interest only (IOs) or principal only (POs). Stripped mortgage-backed securities are often used by mortgage lenders and investors as well as those with mortgage servicing assets to hedge exposure.

A savings association that is vulnerable to a rise in interest rates might, for example, purchase IOs to hedge its exposure. Because IOs tend to increase in value as interest rates rise, they can offset a decline in the value of a mortgage portfolio, which declines when rates rise. Sixty-three savings associations had IO positions with a total value of $250 million as of September 30, 1992.

A savings association that is exposed to falling interest rates might hedge its exposure with POs. For example, a savings association with a large mortgage servicing business can be harmed by falling rates. PO strips tend to increase in value as rates fall, offsetting losses in the value of the servicing. Thirty-four savings associations held POs as of September 30, 1992 with a total value of $315 million.

CMOs that are usually categorized as "high risk" derivatives, such as super POs, Zero-coupon tranches (Z bonds), superfloaters, and inverse floaters can be used to reduce portfolio risk. Effective use of these instruments, however, requires a sophisticated level of expertise. Only 25 institutions hold these types of "high-risk" CMOs.

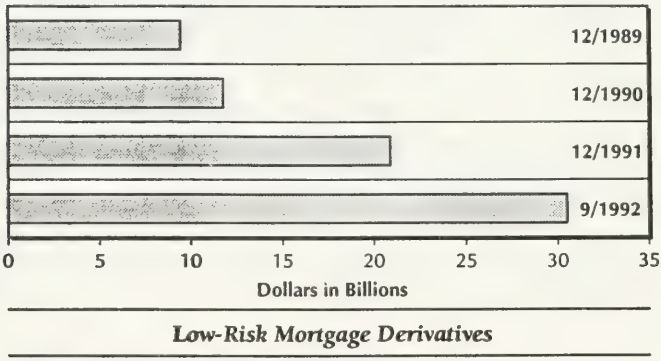
Residuals are considered the most risky mortgage derivative products. Residuals generally cannot be used for risk reduction because of their high and uncertain volatility. Only 51 savings associations hold residuals, about 2.5 percent of the industry. Virtually all residuals held by savings associations were acquired before the OTS policy on derivatives became effective.

About 70 percent of large savings associations (assets over $1 billion) hold mortgage derivatives versus 28 percent of small savings associations (assets less than $100 million). Holdings of the more volatile "high-risk" tranches are also concentrated in larger savings associations. Forty-five percent of large associations hold "high-risk" mortgage derivatives, while only 13 percent of small savings associations hold such securities. High-risk mortgage derivatives account for less than 1 percent of assets in savings associations in every size class.

In the last four years, savings associations have increased their holdings of mortgage derivatives by about 80 percent. Holdings of low-risk mortgage derivatives have tripled over that period, while holdings of high-risk derivatives have fallen by 50 percent (figures 6 and 7).

FIGURE 6

Thrift Holdings of Low-Risk Mortgage Derivatives Have Increased in the Last Four Years *



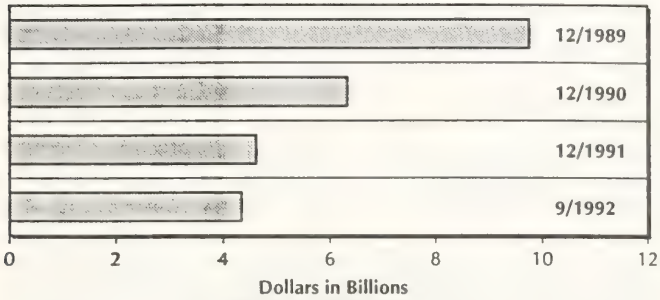
Low-Risk Mortgage Derivatives

* Financial data for thrifts operating throughout the four-year period.

Source: OTS Thrift Financial Reports

FIGURE 7

While Holdings of High-Risk Mortgage Derivatives Have Fallen *



High-Risk Mortgage Derivatives

* Financial data for thrifts operating throughout the four-year period.

Source: OTS Thrift Financial Reports

VI. Training on Derivative Financial Instruments

OTS provides examiners extensive training in derivative products. The training materials on derivatives are presented in six courses, starting with basic information about futures, swaps, and options, to advanced case studies of their use in financial institutions. These courses are:

- New Thrift Regulator School
- Financial Instruments, Futures and Other Instruments
- Risk Management
- Advanced Capital Markets
- Advanced Examiner Topics
- Intermediate Thrift Regulator School

The first two courses or the Risk Management course are required for examiners working toward their Federal Thrift Regulator (FTR) designation. They are usually completed within the first six to 36 months of an examiner's career. As a result, even in the earlier stages of their careers, examiners are introduced to both the technical aspects and regulatory issues concerning these financial instruments. Examiners must successfully complete the Intermediate Thrift Regulator School course to be eligible for the FTR designation. Participants who attend Intermediate Thrift Regulator School are evaluated on their ability to assess the institution's use of derivative financial instruments.

The Advanced Capital Markets and Advanced Examiner Topics courses are generally taken by more experienced FTR accredited examiners who are responsible for examining larger or more complex institutions. These are elective courses but are generally taken to fulfill (annual) continuing-education requirements. The continuing education requirement ensures that OTS examiners receive the most current training available on the constantly changing financial markets. All courses are revised periodically to reflect changes in the financial markets or regulations.

Examiners are also trained to evaluate management's ability to use these instruments effectively. Internal control and accounting issues are also reviewed.

The following is a brief synopsis of the material relating to swaps, options and futures, and mortgage derivatives covered in each course.

New Thrift Regulator School

This two-week course devotes a day to analyzing interest rate risk and introduces various hedging methods that may be used to minimize the risk — namely, options, financial futures, and interest rate swaps. This material parallels OTS policy and analytical methods as presented in OTS's Thrift Activities Handbook.

The course describes the structure of financial futures and options and their use in common hedging strategies. The benefits, risks, costs, and limitations of various types of futures and options contracts are also discussed as well as how the futures/options markets work. Regulatory issues, such as how to analyze the effectiveness of a hedging program using futures/options, internal control concerns, management/board of director oversight, and how to differentiate between hedging and speculation are presented. Interest rate swaps are also introduced, including a description of how a "plain vanilla" swap works, the use of swaps in

hedging strategies, and the benefits and risks of using swaps. This course also devotes several hours to discussing the benefits, risks, and limitations of mortgage derivative securities such as IOs, POs and other complex instruments.

Financial Instruments, Futures, and Other Instruments

This one-week course covers the financial and debt markets, the nature of interest rates, in-depth instruction on financial futures, options and swaps, and policy and regulatory issues relating to hedging.

The course describes the various hedges that can be structured using futures, the effects of different financial futures positions under varying interest rate scenarios, how gains/losses are calculated, and the more common types of financial futures instruments used by thrifts. The course covers the costs of futures hedging, contract choice, and various methods used in determining hedge ratios.

The Financial Instruments, Futures, and Other Instruments course was revised in 1992 to include more detailed information on interest rate swaps. Topics covered include a description of the characteristics of the more common types of swaps, why a thrift would use swaps, how interest rates affect the value of a swap, the calculation of a swap's market value, and the risks/benefits and costs of hedging with swaps. Options are also covered extensively. Topics include the various types of option contracts, which are the most appropriate for thrifts, how the option markets perform, the risks/benefits of using swaps, identification of contractual obligations, how options are priced, and how to interpret option quotations from various financial journals.

Risk Management

Risk Management may be taken as an alternative to Financial Instruments, Futures, and Other Instruments and is targeted for examiners with 18 to 36 months of experience. Various methods of managing interest rate risk are discussed including interest rate swaps and financial futures and options. The material on interest rate swaps includes a description of the structure of a "plain vanilla" swap, why swaps are used and the risks/benefits of using them.

Information on financial futures and options is also presented. The course covers basic terminology, types of option and future contracts, types of hedging strategies, appropriateness of hedges, and a discussion of the differences between hedging and speculation.

Risk Management also instructs examiners on the structure, features, benefits, and risks of interest rate caps, floors, and collars.

Advanced Capital Markets

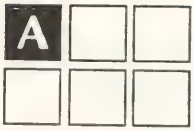
Advanced Capital Markets is intended for experienced examiners and assumes a thorough working knowledge of financial markets and hedging strategies. The course materials emphasize the use of swaps in todays capital markets and how they are effectively used both by financial institutions and by other companies. Case studies are used extensively to illustrate the types of swaps used, the benefits and risks of using swaps, pricing, techniques for determining the market value of a swap in varying interest rate scenarios, and how swaps may affect the overall financial performance and interest rate risk of a financial institution.

The course also discusses interest rate options and derivatives and includes a review of basic concepts. This course explains option pricing and the valuation of derivatives such as interest rate caps, floors, collars, and participation agreements.

Advanced Capital Markets also covers mortgage-backed securities, mortgage derivative securities such as collateralized mortgage obligations, and stripped mortgage-backed securities such as IOs and POs.

Advanced Examiner Topics

Advanced Examiner Topics is a two day course that reviews the basics of the use of swaps in hedging interest rate risk. The swap market is discussed along with basic contracts, pricing, swap reversal, and the risks/benefits of using these contracts. The course also covers the latest in agency issues and how these investments may decrease or increase portfolio risk.



APPENDIX A

Additional Tables

A

APPENDIX A

Additional Tables

Table A-1.	Number of Thrift Institutions Holding Different Types of Off-balance-Sheet Derivatives
Table A-2.	Notional Amount of Off-Balance-Sheet Derivatives
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Table A-8.	Mortgage Derivative Securities Holdings for Different Size Classes of Thrifts
Table A-9.	Mortgage Derivatives as a Percent of Assets of Institutions Holding Derivatives.

Table A-1

Number of Thrift Institutions Holding Different Types of Off-Balance-Sheet Derivatives

(by Size of Institution)

September 30, 1992

	<$100 Million	$100M-300M	$300M-1Billion	>$1Billion	OBS Total
Futures	2	2	3	11	18
Options	4	7	15	25	51
Swaps	3	16	25	63	107
Total	9	21	40	71	141

Source: OTS Thrift Financial Reports

Table A-2

Notional Amount of Off-Balance-Sheet Derivatives

(millions of dollars by size of Institution)

September 30, 1992

	<$100 Million	$100M-300M	$300M-1Billion	>$1Billion	All Sizes Total
Futures	$ 66	$129	$ 472	$ 5,374	$ 6,041
Options	42	491	674	6,527	7,734
Swaps	11	272	1,497	28,474	30,253
Total	119	892	2,643	40,374	44,028

Source: OTS Thrift Financial Reports

Table A-3

Percent of Thrift Industry that Holds Off-Balance-Sheet Derivatives

(percent of industry in each size class)

September 30, 1992

	<$100 Million	$100M-300M	$300M-1Billion	>$1Billion	% of Total Industry
Futures	0.2%	0.4%	1.1%	8.1%	0.9%
Options	0.4	1.3	5.5	18.4	2.6
Swaps	0.3	2.9	9.1	46.3	5.5
OBS Deriv	0.9	3.7	14.6	52.2	7.2

Source: OTS Thrift Financial Reports

Table A-4

Total Assets of Thrift Institutions Holding Off-Balance-Sheet Derivatives

(millions of dollars)

September 30, 1992

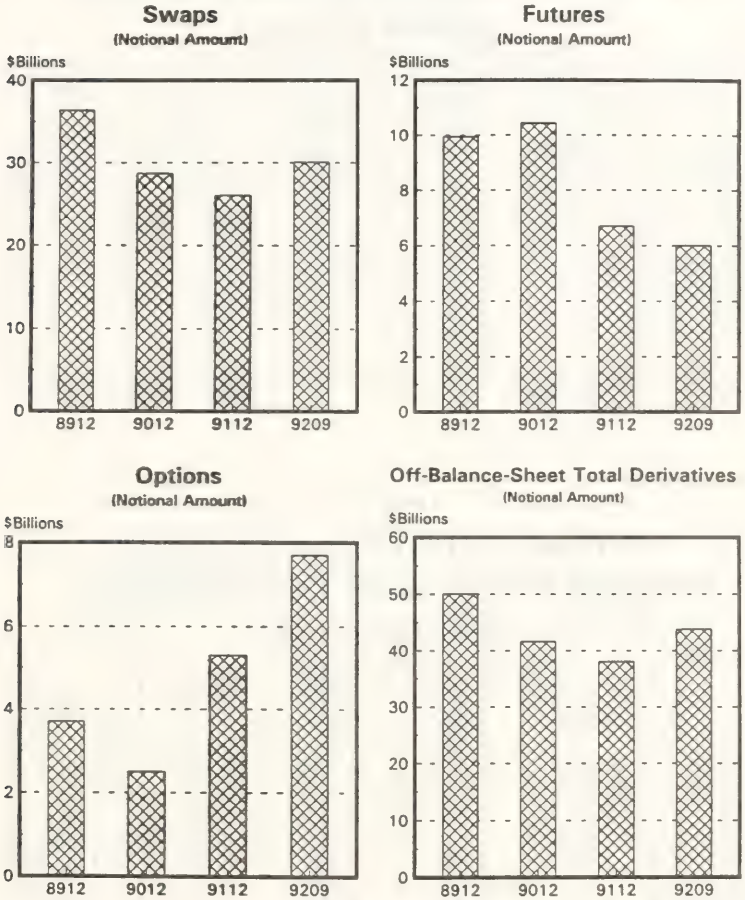
	<$100 Million	$100M-300M	$300M-1Billion	>$1Billion	All Sizes Total
Futures	$ 82	$ 430	$ 1,467	$ 59,885	$ 61,865
Options	305	1,461	8,033	147,111	156,911
Swaps	235	3,005	13,883	355,181	372,303
Total	622	4,036	21,857	370,986	397,500

Source: OTS Thrift Financial Reports

Table A-5

Thrift Industry Holdings of Off-Balance-Sheet Derivatives*

(1989 - 1992)



* Financial data for thrifts operating throughout the four-year period.
Source: OTS Thrift Financial Reports

Table A-6

Number of Thrift Institutions Holding Different Types of Mortgage Derivative Securities

September 30, 1992

	< $100 Million	$100M-300M	$300M-1Billion	> $1Billion	Total
CMOs	265	261	179	93	798
POs	8	7	8	11	34
IOs	16	16	15	16	63
Residuals	1	14	18	18	51
Total	274	268	186	99	827

Source: OTS Thrift Financial Reports

Table A-7

Percent of Thrift Industry Holding Mortgage Derivatives by Size of Institution

September 30, 1992

	< $100 Million	$100M-300M	$300M-1Billion	> $1Billion	Percent of All Thrifts
CMOs	27.29%	46.11%	64.86%	65.96%	40.84%
POs	0.82	1.24	2.90	7.80	1.74
IOs	1.65	2.83	5.43	11.35	3.22
Residuals	0.10	2.47	6.52	12.77	2.61
Total	28.22	47.35	67.39	70.21	42.32

Source: OTS Thrift Financial Reports

Table A-8
Mortgage Derivative Securities Holdings for Different Size Classes of Thrifts
(millions of dollars)

September 30, 1992

	< $100 Million	$100M-300M	$300M-1Billion	> $1Billion	All Sizes Total
CMOs	$ 800	$ 2,642	$ 6,651	$ 24,006	$ 34,099
POs	2	30	31	253	315
IOs	1	22	21	204	249
Residuals	0	15	66	108	189
Total	803	2,709	6,768	24,571	34,851

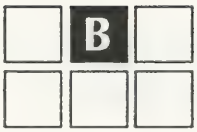
Source: OTS Thrift Financial Reports

Table A-9
Mortgage Derivatives as a Percent of Assets of Institutions Holding Derivatives

September 30, 1992

	< $100 Million	$100M-300M	$300M-1Billion	> $1Billion	All Sizes Total
CMOs	5.20%	5.63%	6.75%	5.65%	5.82%
POs	0.01	0.06	0.03	0.06	0.05
IOs	0.01	0.05	0.02	0.05	0.04
Residuals	0.00	0.03	0.07	0.03	0.03
Total	5.23	5.77	6.87	5.79	5.95

Source: OTS Thrift Financial Reports



APPENDIX B

Thrift Bulletin 13

Office of Regulatory Activities

Thrift Bulletin

Handbook: Thrift Activities
Subjects: Interest Rate Risk Management

Section: 420
TB 13

January 26, 1989

Responsibilities of the Board of Directors and Management with Regard to Interest Rate Risk

Summary: Managing interest rate risk is an essential component in the safe and sound management of a thrift institution. This Bulletin provides guidance to the boards of directors and managements of insured institutions about their responsibilities in this area. It describes the internal policies, practices, and procedures that supervisory staff will expect institutions to utilize in order to comply with the existing regulations on interest rate risk.

For Further Information Contact:
The FHLBank District in which you are located or the Industry Analysis Division of the Office of Regulatory Activities, Washington, D.C., (202) 331-4511.

Thrift Bulletin 13

Under 12 CFR 563.17-6 and 571.3, an insured institution's board of directors is responsible for ensuring the prudent management of the institution's exposure to interest rate risk. In addition, § 563.17(a) requires safe and sound management practices, of which the management of interest rate risk is an essential component. Since the adoption of the current regulations governing interest rate risk, Federal Home Loan Bank System (FHLBS) staff has refined and enhanced the System's regulatory policies and procedures with respect to the interest rate risk exposure of insured institutions. This Bulletin reflects that evolution in regulatory philosophy and presents guidance on the responsibilities of boards of directors and management regarding interest rate risk.

FHLBS staff will expect insured institutions to adopt formal interest rate risk policy statements, containing the elements described in this Bulletin, by June 30, 1989.[1] Institutions will be expected to implement those policies and any attendant changes in management procedures by December 31, 1989, or sooner where Supervisory Agents believe it to be warranted.

Definition of Interest Rate Risk

Interest rate risk (IRR) is defined as the sensitivity of a depository institution's earnings and net asset value to changes in interest rates. IRR can result from (a) timing differences in the repricing of an institution's assets, liabilities, and off-balance sheet contracts; (b) the exercise of embedded options, such as loan prepayments, interest rate caps, and deposit withdrawals; and (c) differences in the behavior of lending and funding rates, sometimes referred to as basis risk. (An example of the latter source of IRR would occur if floating rate assets and liabilities, with otherwise identical repricing characteristics, were based on market indexes that were imperfectly correlated.)

The earnings of most thrift institutions are exposed to IRR because their deposit liabilities reprice faster than their mortgage-related assets. As a result, if interest rates rise, the cost of funds increases more rapidly than the yield on assets, thereby reducing net interest income. From a market value perspective, changes in market interest rates have a greater effect on the present value of long-term, fixed-rate instruments than on that of short-term instruments. If an institution's assets are of longer duration than its liabilities, the net present value of the institution's portfolio will decline when interest rates rise.

Objectives of IRR Management

The objective of IRR management is to maintain an institution's earnings and net worth within self-imposed parameters over a range of possible interest rate environments. Institutions will differ in their willingness to assume IRR, their management capability, and their ability to absorb potential losses. As with other aspects of financial management, a trade-off exists between risk and return; thus, the objective of IRR management need not be the complete elimination of an institution's exposure to changes in interest rates. The board of directors, however, has a fiduciary responsibility for ensuring that the level of IRR exposure incurred by the institution does not exceed prudent levels.

Policies and Procedures for Managing IRR at Insured Institutions

Managing IRR must be considered within the larger context of business planning (e.g., the introduction of new products, expansion, the pricing and structuring of products and services [including any associated customer options]). Although the

1 This Bulletin applies to insured institutions and any subsidiaries which, for purposes of the Thrift Financial Report, are reported on a consolidated basis.

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following discussion focuses on the responsibilities of the board of directors and management that relate specifically to managing IRR, the discussion is not meant to imply that IRR management can be conducted in isolation of other business considerations. Further, although the board of directors ought properly to be concerned with the exposure of the consolidated organization and will undoubtedly want to assess the risk exposure of that entity, these guidelines pertain to the insured institution only.

Responsibilities of the Board of Directors

As noted above, § 563.17(a) requires insured institutions to have safe and sound management practices. The management of IRR is an essential aspect of managing a thrift institution. The board of directors must, therefore, ensure that the institution's policies and procedures for managing IRR are of a level of sophistication that is commensurate with the institution's activities and portfolio and that the institution's exposure is limited to a prudent level. More specifically, § 563.17-6 holds the board accountable for the IRR exposure of the institution and requires the board to establish a formal policy for the management of IRR and to review the results of management's implementation of that policy on at least a quarterly basis.

Board of directors' policy statement:

The board's policy statement should delegate responsibility for the management of IRR and should establish limits on the level of the institution's exposure. Specific authorizations and restrictions should be provided regarding the institution's trading activities, its use of derivatives and synthetic instruments, and its hedging strategies. To facilitate the board's oversight of management in this area, the policy should specify the contents of management's reports to the board on this subject and state the frequency with which the directors will review IRR management (at least quarterly).

The FHLBS has promulgated several policy statements addressing instruments or strategies that can have a significant effect on an institution's IRR management. These policy statements include:

- Risk Controlled Arbitrage (Memorandum SP-74, February 16, 1988; reprinted in United States League of Savings Institutions, *Federal Guide*, ¶ 11,762);
- Investment Consultants (Memorandum R-70, March 16, 1988);
- Mortgage Derivative Products and Mortgage Swaps (Thrift Bulletin TB 12, December 13, 1988).

Because of their connection to IRR, the requirements of these issuances should be of interest to boards of directors in framing their policies on IRR.

Exposure limits:

The most important element of the board of directors' policy statement is a set of explicit limits on the institution's exposure to IRR. Because the ability to control IRR requires a clear understanding of the amount at risk, a board policy in which the IRR limit is expressed only in terms of repricing gaps will no longer be considered sufficient; the board must be aware of the sensitivity of the institution's earnings and net asset value to interest rate changes.

To ensure that the board has a clear understanding of the possible consequences of the IRR exposure being authorized, the institution's IRR policy should define the maximum potential reduction in earnings and net worth that the board is prepared to accept as a result of possible changes in market interest rates. Management should structure the institution's balance sheet and off-balance sheet items so that projected results (under reasonable, documented assumptions) comply with the board's limits.

Specifically, the policy should establish limits on the sensitivity of the institution's net interest income[2] and market value of portfolio equity[3] to changes in interest rates. That is, the policy should specify the maximum percentage change the board of directors is prepared to accept in those two measures as a result of a parallel shift in the term structure of interest rates prevailing at the date of the analysis. These maximum changes should be specified for instantaneous and sustained changes in interest rates of ±100, ±200, ±300, and ±400 basis points and should be measured relative to the levels of net interest income and portfolio equity under an assumption of no change in interest rates.[4]

2 The interest rate sensitivity of net interest income should be evaluated over at least the next four quarters.

3 The market value of portfolio equity (hereafter also referred to as "portfolio equity") is defined as the net present value of an institution's existing assets, liabilities, and off-balance sheet instruments. The appendix to this bulletin discusses the composition and calculation of this measure in more detail.

4 These particular interest rate scenarios provide a convenient basis for analyzing risk exposure; they are not meant to be interest rate forecasts. It has become standard practice in financial analysis to examine the impact of potential rate changes of these magnitudes on the value of financial instruments and/or portfolios.

Example 1

XYZ Savings & Loan Association
Interest Rate Risk Exposure Limits

[1]	[2]	[3]
Change in Interest Rates (in basis points)	Maximum Permissible Change in: Net Interest Income (Next Four Quarters)	Market Value of Portfolio Equity
+400	-125 %	-90 %
+300	-75	-50
+200	-50	-25
+100	-20	-10
0	0	0
-100	-20	-10
-200	-50	-25
-300	-75	-50
-400	-125	-90

Example 1 illustrates a possible set of exposure limits that a board of directors might establish. In the example, the directors of XYZ Savings and Loan have specified that the institution's exposure be limited so that, for each interest rate change listed in column [1] of the table, the institution's net interest income would be reduced by no more than the percentage shown in column [2], and its market value of portfolio equity would be reduced by no more than the percentage in column [3]. For example, if the market value of XYZ's portfolio equity were $1,000 under current market interest rates, management would have to limit the institution's IRR exposure so that an immediate increase in interest rates of 400 basis points (column [1], line 1) would reduce portfolio equity by no more than 90 percent (column [3], line 1), to a level of $100. Similarly, if XYZ's net interest income were projected to be $400 under a constant rate environment, then management would have to limit the institution's exposure so that a 400 basis point increase in interest rates (again, column [1], line 1) would reduce net interest income by no more than 125 percent (column [2], line 1), to no worse than -$100 (i.e., $400 x [1 + (-125/100)] = -$100).

The maximum permissible reduction in net interest income and portfolio equity are for the board of directors to determine. The lower the board's desired level of interest rate sensitivity, the closer to zero it should set these percentages. Note, for instance, that in column [3] of the example, XYZ's board has established limits that would enable the market value of the institution's portfolio to withstand an instantaneous and sustained interest rate change of 400 basis points in either direction. [5]

The technical details of implementing such a policy — e.g., choosing a discount rate for computing changes in market value, ensuring reasonable assumptions about the behavior of customer options, and validating the overall computations — may be left to management. All assumptions should be documented and the board should, as part of its oversight function, periodically assure itself that they are reasonable.

Finally, note that the example specifies the maximum permissible percentage reductions under both positive and negative changes in interest rates. Although the net interest income and portfolio equity of most thrift institutions would increase in a declining interest rate environment, it is clearly possible for the opposite situation to exist (i.e., for an institution to be "asset sensitive"). There is, of course, no need for the board of directors to set the exposure limits symmetrically around a zero percent change in rates, as in Example 1. It should establish the exposure limits in whatever configuration best reflects the board's views on what constitutes a prudent level of exposure, based upon the institution's financial condition and its expertise in managing IRR.

5 As an institution's projected net interest income (under constant interest rates) or portfolio equity approach zero, the board of directors will need to be aware that its limits on IRR exposure, expressed as maximum allowable percentage changes in these two measures, will effectively become more stringent and may require adjustment.

Institutions with negative projected net interest income (under constant rates) should calculate their percentage changes by dropping the negative sign of the denominator (i.e., by using the absolute value of the denominator). For example, assume an institution's net interest income is projected to be -$100 for the next four quarters under a constant interest rate environment. If the board of directors were unwilling to see net interest income fall below -$150 under a particular interest rate scenario, it would specify the exposure limit for that scenario as -50%. That is,

$$\frac{[-\$150 - (-\$100)] \times 100}{\$100} = -50\%.$$

Periodic review of IRR management:

Periodic reports by management to the board of directors should demonstrate compliance with the exposure limits. Reports by management should, therefore, include an analysis of how net interest income and the market value of portfolio equity would be affected by the hypothetical interest rate changes specified in the board's policy.

Example 2 illustrates the type of interest rate sensitivity analysis that management should prepare in order to demonstrate compliance with its board's exposure limits. In columns [3] and [5] of the example, XYZ's management is reporting that neither net interest income nor portfolio equity would be reduced by more than the percentages permitted by the board of directors, shown in columns [2] and [4], under any of the prescribed interest rate environments. Finally, the levels of net interest income and portfolio equity used as denominators in calculating columns [3] and [5] should be reported as memo items.

Clearly, measurements of the sensitivity of the institution's net interest income and portfolio equity will be necessary for management to demonstrate compliance with the board of directors' limits on exposure (as in columns [3] and [5] of Example 2). The FHLBS will calculate estimates of these sensitivity measures using data reported on Section H of the Thrift Financial Report and will provide those estimates to each insured institution.

Example 2

Current Exposure of XYZ Savings & Loan Association to Hypothetical Changes in Interest Rates

[1]	[2]	[3]	[4]	[5]
	Percentage Change in:			
Change in Interest Rates (in basis points)	Net Interest Income Board Limit	Net Interest Income Projected Change	MV of Portfolio Equity Board Limit	MV of Portfolio Equity Projected Change
+400	-125%	-105%	-90%	-85%
+300	-75	-70	-50	-40
+200	-50	-30	-25	-15
+100	-20	-10	-10	-5
0	0	0	0	0
-100	-20	15	-10	10
-200	-50	35	-25	15
-300	-75	40	-50	15
-400	-125	45	-90	20

Memo:

Net interest income projected under constant interest rates: $ 400
Market value of portfolio equity under current interest rates: $1,000

All thrift institutions are strongly encouraged to develop the capability of performing those sensitivity measures for themselves, both to improve the quality of information being supplied to their boards of directors and to improve management's ability to manage the institution's exposure to interest rate risk. Nonetheless, because these measurement techniques are not presently in widespread use in the thrift industry, the managements of most institutions may opt to rely on the FHLBS's interest rate sensitivity estimates to demonstrate compliance with their directors' exposure limits.

Institutions with assets in excess of $500 million or investing in high risk mortgage derivative products will not be permitted to rely solely on the FHLBS's exposure estimates. Such institutions should have the management information systems necessary to perform the required interest rate sensitivity measurements. They will, therefore, be expected to be able to generate reliable net interest income and market value sensitivity measures by December 31, 1989.[6] In addition, Supervisory Agents have the discretion to require other institutions to develop such a measurement capability. Typically, this will be required of institutions with substantial volumes of options, futures, or interest rate swaps, or that otherwise have a complex asset/liability profile.

Because any system of IRR management will rely on certain assumptions, management should demonstrate to the board, and document, that the assumptions underlying its interest rate sensitivity analysis are reasonable. For example, management would need to explain how prepayments would be expected to behave under the various interest rate changes and how they would

6 Supervisory Agents may extend this deadline for institutions that are making good faith efforts to develop the necessary data processing systems and technical abilities.

affect the sensitivity measures.[7] If more elaborate sensitivity analysis is used by the institution than is prescribed by these guidelines, the assumptions being made in that analysis should be discussed with the board and documented.

The board of directors should also consider requiring management to reconcile actual operating results and market values with those projected in the prior period's interest rate sensitivity analysis. Analyzing the sources of variance between actual and forecast will be beneficial not only in improving the institution's financial forecasting ability, but will add to the board's understanding of the major factors driving the institution's exposure to interest rates and the variability of those factors. This exercise will also highlight, for the board, any de facto changes in the institution's business plan.

Responsibilities of Management

Management is responsible for structuring the institution's balance sheet and off-balance sheet transactions in a manner consistent with the board's IRR policy. Management will accomplish this objective through three activities:

- Developing and implementing an IRR management strategy;
- Establishing and maintaining a system of limits and controls; and
- Establishing and utilizing an IRR measurement system.

IRR management strategy:

The board and management are responsible for ensuring the safety and soundness of the institution's IRR management strategy and its implementation. In deciding upon an IRR strategy, the board and management should take into account the level of expertise needed to implement the strategy and whether such expertise is currently available in the institution. A prudent IRR management strategy should be within the scope of existing management expertise. If an institution requires outside assistance to formulate and implement such a strategy, it should observe the provisions of R-Memorandum Number 70 (Investment Consultants: Guidelines on Use of Such Consultants, and Monitoring and Controlling Their Activities). That is, management must understand fully the reasons for adopting a given strategy and its possible effects on the short-term and long-term financial health of the institution. Responsibility for such decision-making cannot be ceded to the consultant.

There may be circumstances in which steps taken to manage IRR conflict with or limit an institution's ability to attain other business goals. In order to ensure that such conflicts are minimized, management's IRR strategy should be developed in conjunction with the creation of a comprehensive business plan for the institution. Further, an institution's strategy to remedy an excessive IRR exposure should not rely on speculative or problematic plans that might result in excessive credit or liquidity risk.

Limits and controls:

Management must control the institution's operating activities so that the aggregate IRR exposure may be coordinated and brought into compliance with the board's policy. The diverse investment, lending, funding, and capital market activities of the institution must be conducted within a system of reporting and controls that will permit management to monitor and manage the overall IRR exposure of the institution.

Furthermore, certain units within the typical institution have the ability to affect the institution's IRR exposure quite rapidly. Typically these are units involved in capital markets activities. Because of the significant potential impact such activities can have on the institution's exposure and the speed with which they can be consummated, management should establish exposure limits on such units and their personnel. A timely means of monitoring compliance with those exposure limits is essential. The longer the lag between the possible establishment of an undesired or unauthorized exposure and management's ability to reverse that exposure, the greater is the possibility of loss.

IRR measurement:

An essential element of managing IRR is the ability to measure interest rate exposure accurately. Management has the responsibility to use a method of measurement that accurately assesses its exposure to IRR. The state of knowledge about asset/liability management has advanced rapidly in recent years and the development of measurement techniques, such as duration and simulation models, has greatly enhanced the ability of depository institutions to measure and manage their IRR exposures.

As previously discussed, most institutions will be permitted to rely on the exposure estimates calculated by the FHLBS. These estimates will generally be less accurate than

7 Managements using the FHLBS estimate measures of interest rate sensitivity should conduct a similar discussion with their directors in order to apprise them of the reliability of those estimates.

measures generated using detailed internal data and based upon an institution's own informed assumptions. Moreover, because of reporting lags, the FHLB's estimates will not be as current as an institution's internally generated exposure measurements would be. It is, therefore, strongly recommended that all thrift institutions develop the capability to calculate their own measures of exposure to interest rate risk.

The measures and procedures presented in this Bulletin are not intended to preclude institutions from engaging in other techniques of measuring and managing IRR. On the contrary, the interest rate sensitivity measures prescribed above should be considered the minimum level of information needed by the board of directors in order to oversee the management of IRR effectively.

Regulatory Concerns

There are four circumstances that would cause regulatory concern: (a) a nonexistent or incomplete IRR policy, (b) unacceptably high limits on IRR exposure, (c) noncompliance with the board of directors' IRR policy, and (d) weaknesses in management reporting systems or internal controls.

Nonexistent IRR Policy

The first cause for regulatory concern is the absence of a written IRR policy or a policy that lacks one or more of the elements discussed in the section, "Board of directors' policy statement". As noted above, existing regulation requires the board of directors to adopt a policy for the management of IRR. If such a policy is nonexistent or fails to address relevant policy issues, the institution may be in violation of § 563.17-6, and the situation will be treated in the same manner as other possible violations of regulation.

Unacceptable Limits on IRR Exposure

The board of directors has a fiduciary responsibility to operate the institution in a safe and sound manner. It should, therefore, establish and ensure compliance with prudent limits on IRR exposure. Generally, such limits should not permit an exposure that has the potential to deplete net worth to a level below the regulatory minimum or to eliminate the market value of the institution's portfolio equity under plausible changes in interest rates. [8]

If regulatory staff determines that excessive exposures are permitted by the board's IRR policy, or if the institution fails to take appropriate action to reduce such an existing exposure, the board of directors will be apprised of these findings and be given adequate opportunity to respond to the assessment of the regulatory staff. If, following consideration of the institution's response, the Principal Supervisory Agent believes that the institution's IRR exposure is inappropriate, and if the institution fails to take remedial steps, enforcement action will be taken.

Noncompliance with Board of Directors' IRR Policy

If an institution's IRR exposure is found to exceed the limits established by the board of directors, corrective measures (e.g., improved reporting systems, intensified board oversight) should be taken in order to prevent a recurrence of the situation. If the excessive exposure was the result of intentional decisions by management to exceed the board's limits, appropriate disciplinary action should be taken by the board of directors.

Weaknesses in Reporting or Internal Controls

The final source of possible concern is an institution with weaknesses in its IRR management practices and procedures (e.g., poor measurement systems, weak internal controls). While such an institution's exposure may not be excessive at present, deficiencies in IRR management allow for the possibility that excessive exposures may develop in the future. The identified weaknesses will be discussed with the institution's board and management, and an acceptable plan to correct them will be required.

8 Some troubled institutions have limited scope to reduce their IRR exposure. Supervisory Agents, therefore, have discretion to modify the guidelines in this bulletin for institutions operating under Consent Agreements or Special Agreements. In determining whether such an institution's exposure is excessive from a regulatory perspective, Supervisory Agents should review the available alternatives for reducing the institution's exposure and the impact those alternatives would have on the institution's financial condition. The Supervisory Agent's decision should be communicated to the institution's board and documented. Such an institution should, nonetheless, otherwise comply with the guidelines in this bulletin. In particular, its board of directors will be expected to maintain exposure limits (albeit possibly high ones) and its management will be expected to measure and report the institution's current interest rate exposure.

Darrel W. Dochow

— Darrel W. Dochow, Executive Director

Appendix to Thrift Bulletin 13

Calculating the Market Value of Portfolio Equity

The market value of portfolio equity ("portfolio equity") is a key component of a depository institution's economic value. As is discussed below, portfolio equity is defined as the net present value of assets, liabilities, and off-balance sheet contracts.

The interest rate sensitivity of portfolio equity is an important measure of IRR. Since portfolio equity includes the present value of the future cash flows resulting from all currently booked instruments, it provides a leading indicator of an institution's future stream of net interest income. This allows management to take a longer-term perspective on IRR management without having to examine the effects of a particular portfolio structure on net interest income in each individual future period; the change in portfolio equity thereby provides a compact measure of those future effects.

The interest rate sensitivity of portfolio equity is also highly relevant from a regulatory perspective, since it measures the potential effect of interest rate changes on the major component of an institution's economic value. Economic value is an important consideration for all thrifts, but it is an especially important consideration with regard to marginally solvent institutions, since changes in portfolio equity have a direct bearing on the potential cost of disposing of such institutions, should they fail.

Calculating the Market Value of Portfolio Equity

The general formula for calculating the market value of portfolio equity is as follows:

Market value of portfolio equity =
Present value of cash flows from existing assets
minus the present value of cash flows from existing liabilities
plus the present value of cash inflows from existing off-balance sheet contracts
minus the present value of cash outflows from existing off-balance sheet contracts.

Computing changes in the market value of portfolio equity will clearly require an institution to make a number of assumptions. Management should ensure that all assumptions are reasonable and are documented. The following discussion provides some guidance in calculating portfolio equity and in making the necessary assumptions.

Cash flows to be included in the market value calculation:

- cash and deposits with other financial institutions;
- expected receipts (principal and interest) associated with existing loans, leases, participations, and securities (regardless of whether held for investment or trading purposes);
- expected payments of principal and interest associated with existing deposits and borrowings (including subordinated debt);
- expected payments of dividends on all preferred stock;
- expected cash inflows and outflows associated with existing futures, swaps, options, and firm and optional commitments to originate, purchase, and sell financial instruments; and
- any other well-defined, contractual cash flows resulting from existing financial contracts, such as loan servicing agreements.

Adjustments to cash flows due to customer options:

Future cash flows on the items listed above may be greatly affected by the existence of customer options, such as loan prepayments, caps, or deposit withdrawals. The institution will need to make assumptions about how customer options will be exercised under different interest rates and adjust the scheduled cash flows accordingly.

Assets to be included at book value:

It is difficult to calculate the present value of many of the assets and liabilities of thrift institutions because of uncertainty about the timing and the amount of their cash flows. To avoid unduly complicating the IRR measurement process at this early stage of implementation, it may reasonably be assumed that the present values of some items will not be affected by changes in the level of interest rates. This assumption is most easily incorporated into the analysis by assuming that the present value of such items remains at book value (net of any associated valuation allowance), regardless of the interest rate scenario. In calculating the percentage change in the market value of portfolio equity, therefore, the present value of the following assets should generally be assumed to be equal to their book value (net of any associated valuation allowance), regardless of the level of interest rates:

- fixed assets;
- repossessed assets;

- real estate held for development, investment, or resale; and
- assets of which any portion is classified as doubtful or loss.

Cash flows to be excluded from the market value calculation:

The following types of cash flows should generally be excluded from the calculation of portfolio equity:

- anticipated loan fees or service charges, other than those that may reasonably be expected in connection with existing assets or liabilities or in connection with existing commitments;
- anticipated non-interest expenses (e.g., salaries, occupancy expenses, income taxes); and
- future dividends (except preferred dividends) to be paid to or received from individuals or corporations (including service corporations or other unconsolidated affiliates).

In addition, certain other balance sheet entries that are appropriate under Regulatory Accounting Principles should be excluded from the calculation of the market value of portfolio equity. These are accounting entries intended to delay the recognition of income or expense cash flows that actually occurred in the past, such as:

- deferred loan fees, unamortized premiums, or unaccreted discounts;
- fees paid on options;
- deferred gains or losses on futures or options or deferred gains or losses on the sale of assets; and
- goodwill.

Method of discounting:

A number of alternative discount rate configurations are possible, ranging from discounting all cash flows by a single "average" discount rate, to configurations in which different discount rates are used for each cash flow. The costs and benefits of one method versus another will differ for each institution. The responsibility for choosing a particular discounting method resides with the institution. Like other assumptions necessary to the analysis, the details of the method that is chosen, and the rationale for choosing it, should be documented. Finally, to assure an unbiased analysis, the method of discounting should be applied by the institution in a consistent manner over time. Any changes, and the reasons for them, should be well documented.

APPENDIX C

SAMPLE
Thrift Exposure Report

Interest Rate Risk Exposure Report

The Interest Rate Risk Exposure Report will be prepared by OTS on a quarterly basis for every thrift institution. The report is arranged as follows.

I. Summary of Contents

Page 1: Summary Page

This page provides summary information about the association's estimated interest rate exposure measured in terms of maturity gaps and in terms of the sensitivity of the market value of portfolio equity (MVPE).

The summary page also permits simple trend analysis by providing information on the institution's exposure in the prior quarter and in the same quarter in the prior year.

Pages 2-3: Market Value Estimates by Interest Rate Scenario

These pages present detailed information about the institution's MVPE by providing separate market value estimates for the major types of assets, liabilities, and off-balance sheet instruments composing the institution's portfolio. These estimates are displayed for each of nine interest rate scenarios: actual end-of-quarter interest rates and eight hypothetical cases in which interest rates are moved up or down by 100, 200, 300, or 400 basis points.

Because pages 2 and 3 are unfamiliar to you, the second part of this Attachment provides a detailed description of their contents.

Pages 4-7: Gap Analysis (with Prepayment Assumptions Applied)

These pages provide detailed information about the composition of the institution's maturity gaps. The amount of principal inflow or outflow expected in each maturity/repricing "bucket" is displayed for major types of assets, liabilities, and off-balance sheet instruments.

Pages 8-10: Schedule MR "Image Report"

These pages contain the raw data reported by the institution on Schedule MR of its Thrift Financial Report. The OTS exposure estimates are based on this information.

Page 11: Gap Report National Prepayment Assumptions

This page displays the assumptions made by OTS about mortgage prepayment rates and deposit decay rates in calculating the maturity gaps.

II. Description of Market Value Estimates

Detailed information about the institution's market value of portfolio equity (MVPE) is presented on pages 2 and 3 of the Interest Rate Risk Exposure Report. All dollar amounts are in thousands.

Each section provides the estimated market value of major types of financial instruments under nine interest rate scenarios. In the sample report for XYZ Savings Bank, the interest rate scenarios are shown in block "A." The center column, labeled "Current Market," represents the estimated market value of each instrument under the interest rate environment in effect at the end of the quarter. The columns to either side of the Current Market rate column represent market values under hypothetical interest rate environments in which the actual end-of-quarter yield curve has been shifted up or down by amounts ranging from 100 to 400 basis points.

For example, in the Assets section on page 2, the line labeled "B" lists the estimated market value of the institution's fixed-rate residential mortgages under each of the nine scenarios. Thus, the OTS estimates that the current market value of those mortgages is $2,032.8 million. If interest rates increase by 200 basis points, the value of those mortgages would be only $1,861.0 million, a decline of $171.8 million. Conversely, a 200 basis point fall in interest rates would result in an estimated market value of $2,155.1 million for those mortgages, an increase of $122.4 million.

Interest Rate Risk Exposure Report
Continued

Similar market value estimates are presented on page 2 for each of the other major types of assets. The total market value of all assets is shown for each of the nine rate scenarios and printed on the last line of the page (labeled "C"). Thus, the estimated market value of XYZ Savings Bank's total assets under current market interest rates is $9,251.8 million. If interest rates increase by 200 basis points, that market value would fall to $8,815.5 million. If, on the other hand, rates fall by 200 basis points, the market value of XYZ Savings Bank's assets would rise to $9,568.9 million.

The presentation of the estimated market values of Liabilities appears on page 3 and is very similar to that of assets. Thus, the estimated market value of each of the major types of liabilities is displayed for the actual and hypothetical interest rate scenarios. The total market value of XYZ Savings Bank's liabilities is presented for each interest rate scenario on line "D."

The market value of Off-Balance Sheet Contracts is also presented on page 3, below the liabilities section. The only notable difference between these instruments and those already described is that the market value of a given portfolio of off-balance sheet contracts can be either positive or negative, depending on the interest rate scenario. For example, XYZ Savings Bank has a position in swaps (receive floating) for which OTS estimates the current market value to be -$4.3 million (center column of line "E"). In other words, the institution currently has a loss on its swap position. If interest rates were to fall by 200 basis points, that loss would increase to -$8.8 million. If interest rates rise by 200 basis points, however, the swap position would become profitable, with a market value of $0.2 million. The net market value of all off-balance sheet contracts is shown for each interest rate scenario on line "F."

Finally, the Market Value of Portfolio Equity is calculated for each interest rate scenario and presented in the line labeled "G." MVPE is equal to the net market value of a firm's existing assets, liabilities, and off-balance sheet instruments. Therefore, MVPE is calculated as the market value of assets (line "C") minus the market value of liabilities (line "D"), plus the net market value of off-balance sheet items (line "F"). For XYZ Savings Bank, the MVPE under current market rates is $461.8 million ($9,251.8 - $8,795.5 + $5.6 = $461.8). If interest rates fall by 200 basis points, XYZ's estimated MVPE will be $649.4 million (an increase of $187.6 million, as shown in line "H"). Conversely, if interest rates rise by 200 basis points, XYZ's estimated MVPE will be $129.5 million (a decline of $332.3 million).

Sample
Interest Rate Risk Exposure Report

DOCKET: 00000
XYZ SAVINGS BANK USA
ANYTOWN
CYCLE: DEC 19XX STATUS : CLEAN

OFFICE OF THRIFT SUPERVISION
SCHEDULE 9 - PROVISIONAL ESTIMATES
MARKET VALUE ESTIMATES BY INTEREST RATE SCENARIO

REPORT: TP03003
DATE: 05/09/90
TIME: 09:48
PAGE: 02

[A]

*** ASSETS ***	*** Change in Interest Rates *** -400 BP	-300 BP	-200 BP	-100 BP	Current Market	+100 BP	+200 BP	+300 BP	+400 BP
MORTGAGE LOANS AND CONTRACTS									
First Mortgage Loans:									
Adjustable-Rate: 1-4 Dwelling Units									
Current Market Indices (Treas., etc.).	502,907	495,073	494,507	493,202	490,208	484,425	474,646	461,416	445,785
Lagging Market Indices (COFI)	1,941,517	1,924,131	1,910,630	1,917,813	1,905,760	1,882,747	1,846,774	1,804,107	1,755,727
[B] Fixed-rate: 1-4 Dwelling Units, Total.	2,314,437	2,172,044	2,155,139	2,114,087	2,032,769	1,953,457	1,861,034	1,770,089	1,685,338
Other Residential and Non-residential									
Adjustable-Rate	1,332,941	1,329,848	1,327,318	1,323,419	1,318,912	1,314,346	1,309,817	1,305,358	1,300,960
Fixed-Rate	617,525	613,913	612,276	604,371	592,303	579,666	567,226	555,325	543,078
Second Mortgage Loans	91,039	90,697	90,545	90,053	89,270	88,428	87,588	86,768	85,970
MORTGAGE LOAN SERVICING RIGHTS	40,087	33,226	40,174	54,178	65,839	71,858	73,137	73,165	72,499
NONMORTGAGE LOANS									
Consumer	395,060	387,226	379,978	373,258	367,015	361,204	355,783	350,716	345,973
Commercial	179,235	176,853	174,486	172,133	171,794	171,468	171,154	170,851	170,559
INVESTMENT SECURITIES - PART I	330,276	327,854	325,492	323,189	320,942	318,749	316,606	314,513	312,466
INVESTMENT SECURITIES - PART II									
Equity Securities	3,245	3,121	2,998	2,874	2,750	2,626	2,503	2,379	2,255
Debt Securities Rated Below	2,569	2,453	2,345	2,243	2,148	2,059	1,975	1,896	1,822
Investment Grade									
Zero Coupon Securities	0	0	0	0	0	0	0	0	0
CMO and REMIC Tranches, All Types.....	0	0	0	0	0	0	0	0	0
Principal Only Strips	108,023	106,076	98,047	84,430	70,634	60,856	53,340	47,519	42,839
Interest Only Strips	0	0	0	0	0	0	0	0	0
Fixed-Rate Residuals	0	0	0	0	0	0	0	0	0
Floating-Rate Residuals	0	0	0	0	0	0	0	0	0
CASH	102,120	102,120	102,120	102,120	102,120	102,120	102,120	102,120	102,120
SERVICE CORPORATIONS/SUBSIDIARIES	822,606	791,236	759,865	728,495	697,124	665,753	634,383	603,012	571,642
FIXED ASSETS	296,823	285,504	274,184	262,865	251,545	240,225	228,906	217,586	206,267
OTHER ASSETS	302,814	302,814	302,814	302,814	302,814	302,814	302,814	302,814	302,814
NON-PERFORMING LOANS	92,141	88,628	85,114	81,600	78,086	74,572	71,058	67,544	64,031
REPOSSESSED ASSETS & REAL ESTATE HELD...	459,907	442,369	424,830	407,291	389,752	372,213	354,674	337,135	319,597
[C] *** MARKET VALUE OF ASSETS	9,829,272	9,671,984	9,568,859	9,440,435	9,251,787	9,049,586	8,815,538	8,575,116	8,332,549

NOTE: Dollar Amounts in Thousands

Sample
Interest Rate Risk Exposure Report

DOCKET: 00000
XYZ SAVINGS BANK
ANYTOWN USA
CYCLE: DEC 19XX STATUS : CLEAN

OFFICE OF THRIFT SUPERVISION
SCHEDULE 9 - PROVISIONAL ESTIMATES
MARKET VALUE ESTIMATES BY INTEREST RATE SCENARIO

REPORT: TP0200J
DATE: 05/09/90
TIME: 09:48
PAGE: 03

	*** Change in Interest Rates ***								
	-400 BP	-300 BP	-200 BP	-100 BP	Current Market	+100 BP	+200 BP	+300 BP	+400 BP
A *** LIABILITIES ***									
DEPOSITS									
Interest Bearing Deposits									
Fixed Maturity Deposits	4,585,552	4,562,058	4,539,141	4,516,775	4,494,939	4,473,610	4,455,400	4,444,220	4,437,337
NOW, Super NOW and Other Transaction Accounts	419,954	414,950	409,969	403,796	392,945	382,564	372,746	363,463	354,675
Money Market Deposit Accounts	1,085,358	1,081,102	1,076,803	1,067,995	1,059,108	1,050,427	1,041,531	1,029,892	1,018,102
NOW Accounts	231,152	229,570	228,008	223,363	215,577	208,387	201,714	195,504	189,711
Passbook Accounts	186,780	180,351	164,688	143,107	124,659	112,750	104,192	97,555	92,053
Non-Interest Bearing Deposits									
BORROWINGS									
FHLB Advances	1,319,809	1,309,101	1,298,679	1,288,531	1,278,649	1,269,022	1,259,639	1,250,491	1,241,572
Other Borrowings	1,108,057	1,103,915	1,099,969	1,096,192	1,092,565	1,089,071	1,085,695	1,082,425	1,079,253
Preferred Stock and Subordinated Debentures	0	0	0	0	0	0	0	0	0
OTHER LIABILITIES	137,086	137,086	137,086	137,086	137,086	137,086	137,086	137,086	137,086
D *** MARKET VALUE OF LIABILITIES	9,073,748	9,018,140	8,954,382	8,875,845	8,795,529	8,722,925	8,658,003	8,600,637	8,549,788
*** OFF BALANCE SHEET ITEMS ***									
HEDGING ACTIVITY (ASSETS)									
Options	0	0	0	0	0	0	0	0	0
Futures and Firm Commitments to Sell	-9,116	-7,026	-5,669	-4,035	-264	4,167	9,728	15,337	20,741
OFF-BALANCE-SHEET ACTIVITY (ASSETS)									
Options and Optional Commitments to Originate or Purchase	0	0	0	0	0	0	0	0	0
Futures and Firm Commitments to Originate or Purchase	96,508	68,393	49,098	30,148	6,575	-19,396	-50,985	-85,490	-122,094
E Swaps (Receive Fixed)	0	0	0	0	0	0	0	0	0
HEDGING ACTIVITY (LIABILITIES)									
Options	0	49	337	1,204	3,543	7,776	13,004	18,589	24,211
Futures	0	0	0	0	0	0	0	0	0
Swaps (Receive Floating)	-13,310	-11,056	-8,803	-6,549	-4,296	-2,042	212	2,465	4,719
OFF-BALANCE-SHEET ACTIVITY (LIABILITIES)									
Sale of Caps, Optional & Firm Commitments to Acquire/Dispose Liabilities	0	0	0	0	0	0	0	0	0
F *** NET MARKET VALUE OF HEDGING AND OFF-BALANCE-SHEET ITEMS	74,080	50,360	34,863	20,765	5,580	-9,494	-28,041	-49,099	-72,423
G *** MARKET VALUE OF PORTFOLIO EQUITY	829,603	704,204	649,440	585,356	461,816	317,167	129,494	-74,621	-289,663
H *** DOLLAR CHANGE IN MARKET VALUE	367,788	242,388	187,624	123,540		-144,649	-332,322	-536,436	-751,479
*** PERCENT CHANGE IN MARKET VALUE	80	52	41	27		-31	-72	-116	-163

NOTE: Dollar Amounts in $Thousands

APPENDIX D

Format of Off-Balance-Sheet page of new Exposure Report

DOCKET: 12345
RISK MANAGEMENT TEST SAVINGS BANK "A"
WASHINGTON DC
CYCLE: JUN 1992

OFFICE OF THRIFT SUPERVISION
THRIFT FINANCIAL REPORT SYSTEM

REPORT: AVT0000
DATE: 02/23/93
TIME: 16:25
PAGE: 05

MARKET VALUE ESTIMATES BY INTEREST RATE SCENARIO

* OFF-BALANCE-SHEET POSITIONS *	*** Change in Interest Rates ***								
	-400 bp	-300 bp	-200 bp	-100 bp	No Change	+100 bp	+200 bp	+300 bp	+400 b p
OPTIONAL COMMITMENTS TO ORIGINATE									
FRMs & Balloon/2-Step Mortgages	-	-	-	-	-	-	-	-	-
ARMs	-	-	-	-	-	-	-	-	-
Other Mortgages	-	-	-	-	-	-	-	-	-
FIRM COMMITMENTS									
Purchase/Originate Mtgs & MBS	-	-	-	-	-	-	-	-	-
Sell Mortgages & MBS	-	-	-	-	-	-	-	-	-
Purchase Non-Mortgage Items	-	-	-	-	-	-	-	-	-
Sell Non-Mortgage Items	-	-	-	-	-	-	-	-	-
OPTIONS ON MORTGAGES & MBS	-	-	-	-	-	-	-	-	-
INTEREST-RATE SWAPS									
Pay Fixed, Receive Floating	-	-	-	-	-	-	-	-	-
Pay Floating, Receive Fixed	-	-	-	-	-	-	-	-	-
Basis Swaps	-	-	-	-	-	-	-	-	-
Swaptions	-	-	-	-	-	-	-	-	-
INTEREST-RATE CAPS	-	-	-	-	-	-	-	-	-
INTEREST-RATE FLOORS	-	-	-	-	-	-	-	-	-
FUTURES	-	-	-	-	-	-	-	-	-
OPTIONS ON FUTURES	-	-	-	-	-	-	-	-	-
CONSTRUCTION LIP	-	-	-	-	-	-	-	-	-
SELF-VALUED [CMR911-CMR919]	-	-	-	-	-	-	-	-	-
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APPENDIX E

Glossary

Glossary

The definitions in this glossary are more general than regulatory definitions and should not be construed as such.

Amortizing swap — a swap in which the notional amount of the agreement declines over time according to an amortization schedule. The rate of amortization may be preset or may be determined by interest rates.

Broker — an agent who brings together buyers and sellers and works for a commission.

Cap *(also called interest rate cap)* — an agreement where the seller pays the buyer a sequence of cash flows based on the excess of a specified floating index rate over a specified fixed rate if the index rate exceeds the fixed rate on specified dates. A cap is a series of options, each one beginning on the date that the prior one expires and expiring on the next specified date. Caps are used to hedge against rising interest rates because payments to the buyer increase as rates rise.

Collar — a combination of a cap and a floor. Typically, the holder of an interest-rate collar has bought a cap on an interest rate and sold a floor at a lower rate. The strategy lowers the price of the cap portion by obligating the holder to make payments if rates fall below the level of the floor.

Collateralized mortgage obligations (CMOs) — securities having mortgages or mortgage-backed securities as collateral. Cash flows from the collateral are redirected among two or more tranches (bonds). CMOs typically have tranches with low prepayment risk, called planned amortization classes (PACs), and tranches with high prepayment risk. Most CMOs are issued in the form of real estate mortgage investment conduits (REMICs).

CMOs — see collateralized mortgage obligations

Dealers — buyers and sellers in the financial markets who are trading for their own account rather than for a customer.

Derivative product — an instrument whose value depends on the value of something else. The underlying item may be a commodity, a security, an index, a rate, a currency, or even a pool of mortgages. Examples include futures, options, forwards, caps and floors, swaps, and CMOs.

Duration — the percentage change in the value of a security for a 100-basis point change in interest rates. It is also defined as a weighted average time to receipt of cash flows from a security, where the weights are the fraction of total value contributed by each cash flow. Duration is commonly used in the analysis of interest rate risk.

11th District cost of funds index — an index reported monthly by the San Francisco Federal Home Loan Bank that represents the average cost of funds at member institutions.

FFIEC — Federal Financial Institutions Examination Council. Its members are representatives from the Board of Governors of the Federal Reserve System, the Office of the Comptroller of the Currency, the Federal Deposit Insurance Corporation, the National Credit Union Administration, and the Office of Thrift Supervision.

FFIEC high-risk test — In general, a mortgage derivative product that meets any of the three tests below is a high-risk mortgage security:

(1)*Average Life Test.* The mortgage derivative product has an expected weighted average life greater than 10.0 years.

(2)*Average Life Sensitivity Test.* The expected weighted average life of the mortgage derivative product:

a. extends by more than 4.0 years, assuming an immediate and sustained parallel shift in the yield curve of plus 300 basis points, or

b. shortens by more than 6.0 years, assuming an immediate and sustained parallel shift in the yield curve of minus 300 basis points.

(3)*Price Sensitivity Test.* The estimated change in the price of the mortgage derivative product is more than 17 percent, due to an immediate and sustained parallel shift in the yield curve of plus or minus 300 basis points.

Generally a CMO floating-rate debt class whose rate adjusts at least annually with a conventional market index will not be subject to the average life and average life sensitivity tests if it bears a rate that, at the time of purchase or at a subsequent testing date, is below the contractual cap on the instrument.

FHLMC — Federal Home Loan Mortgage Corporation, or Freddie Mac. Freddie Mac is a government-sponsored enterprise that securitizes mortgages.

Financial instrument — the Financial Accounting Standards Board (FASB) defines a financial instrument in Statement 105 as:

Cash, evidence of an ownership interest in an entity, or a contract that both:

a. Imposes on one entity a contractual obligation (1) to deliver cash or another financial instrument to a second entity or (2) to exchange financial instruments on potentially unfavorable terms with the second entity

b. Conveys to that second entity a contractual right (1) to receive cash or another financial instrument from the first entity or (2) to exchange other financial instruments on potentially favorable terms with the first entity.

Firm forward commitment — an agreement to buy or sell financial instruments, typically mortgages, at a specified time in the future at a specified price and coupon rate. Both parties are obligated to fulfill the contract. A forward commitment is typically fulfilled by delivery of the underlying mortgages from the short position (seller) to the long (buyer).

Floater — a CMO tranche whose interest rate adjusts periodically according to the current rate of a specified interest rate index. Most floaters are indexed to LIBOR. Floaters generally have little interest rate risk unless their rate is near a cap placed on the rate the tranche will pay.

Floor (also called interest rate floor) — an agreement where the seller pays the buyer a sequence of cash flows based on the excess of a specified fixed rate over a specified floating index rate if the floating rate falls below the fixed rate on specified dates. A floor is a series of options, each one beginning on the date that the prior one expires and expiring on the next specified date. Floors are used to hedge against falling interest rates, because payments to the buyer increase as rates fall.

FNMA — Federal National Mortgage Association, or Fannie Mae. Fannie Mae is a government-sponsored enterprise that securitizes mortgages.

Forward rate agreement — an agreement to between two counterparties on the interest rate to be paid at a specified time in the future on a notional principal amount of specified maturity. A forward rate agreement is typically fulfilled by offset or cash settlement. Forward rate agreements are similar to exchange-traded futures contracts, but less standardized, and they have counterparty risk.

Futures — An agreement to buy or sell a commodity or financial instrument at a specified time in the future at a specified price. Both parties to a futures contract are obligated to fulfill the contract. Futures contracts may be fulfilled by making or taking delivery of the underlying commodity, cash settlement, or by offset. Futures contracts are used to assume or shift the risk of price changes. Futures contracts traded on exchanges have no counterparty risk.

GNMA — Government National Mortgage Association, or Ginnie Mae. Ginnie Mae securitizes FHA/VA mortgages, and is an agency of the federal government. Its securities have the backing of the federal government.

High-risk test — see FFIEC high-risk test.

Interest-only securities (IOs) — stripped mortgage-backed securities that pay only the interest portion of the monthly cash flows received on the collateral.

Interest rate risk — the change in value of an instrument or an institution when interest rates change. For example, as interest rates rise, the value falls in an institution whose assets reprice more slowly than its liabilities (the duration of assets exceeds the duration of liabilities). Interest rate risk is often measured by the change in value due to parallel shifts in the yield curve of ±100, ±200, ±300, and ±400 basis points.

Inverse Floater — a CMO tranche whose interest rate adjusts periodically and inversely with an interest rate index. The rate on an inverse floater falls as the interest rate index rises. Inverse floaters generally have substantial interest rate risk for institutions exposed to rising rates.

IO — see interest-only securities.

LIBOR — the London Interbank Offer Rate. A rate quoted for Eurodollar deposits. LIBOR is the most common floating-rate index used in interest-rate swaps, caps, and floors.

Macro-hedging — attempting to reduce overall exposure of the institution to interest rate risk. A savings association that uses derivative products to reduce its exposure to interest rate risk is macro-hedging.

Market maker — one who stands ready to buy /sell financial instruments at a bid/ask price throughout the business day. Market makers attempt to profit from the bid/ask spread.

Micro-hedging — attempting to reduce risk of the combination of a derivative product and specified assets or liabilities. An institution that is attempting to reduce exposure to interest-rate risk on selected assets or liabilities by using derivative products is micro-hedging. Micro-hedging need not reduce overall exposure of the institution to interest-rate risk.

Mortgage-backed security — a security having mortgages or other mortgage-backed securities as collateral. Mortgage-backed securities are often called pass-through securities because they pass through to the investor the cash flows from the underlying mortgages. Mortgage-backed securities are often "guaranteed" by a government agency, a government-sponsored enterprise, or some other entity.

Mortgage derivative product — a group of financial instruments that redirect the cash flows from mortgages underlying the securities to two or more classes with different maturity or risk characteristics. Mortgage derivative products include CMOs, REMICs, CMO and REMIC residuals, stripped mortgage-backed securities (SMBS), swaps involving these products, and securities having similar risk characteristics.

Mortgage swap — a swap agreement that stipulates a decline in the notional amount of the agreement declines over time according to the amortization rate of a pool of mortgages. At a specified maturity date the parties may exchange a final cash payment based on the change in value of the underlying mortgage pool from a value set at swap initiation.

MVPE — market value of portfolio equity. MVPE is defined as the market value of existing assets minus the market value of existing liabilities plus the net value of existing off-balance-sheet items. MVPE is a measure of the capital of a savings association.

MVPE model — the model developed and used by the OTS to measure the interest rate risk exposure of savings associations. The MVPE model uses option-adjusted spread technology and maturity and rate information on thrift assets, liabilities, and off-balance-sheet items to measure portfolio equity in 9 alternative interest-rate scenarios.

Notional amount — the stated dollar amount of the agreement on which interest rate payments are determined for many derivative products. For example, the notional amount of the 3 month Eurodollar futures contract is $1 million.

OBS items — see off-balance-sheet items.

Off-balance-sheet items — instruments of actual or potentially assignable value or cost — such as futures, options, swaps, and forwards — that are not permitted or required to be booked on the balance sheet under generally accepted accounting principles (GAAP).

Option — an agreement that grants to the purchaser the right but not the obligation to buy or sell a commodity or financial instrument at a specified price on or before a specified date in the future. The buyer can purchase the right to buy the commodity or financial instrument at the specified price (call option), or the right to sell the commodity at the specified price (put option). The buyer of an option is "long" the option, while the seller is "short" the option. Options may be bought or sold on exchanges or over the counter. Options traded on an exchange are backed by its clearinghouse. Options traded over the counter expose the buyer to counterparty risk.

Optional commitment — an agreement that grants to the purchaser the right but not the obligation to buy or sell financial instruments, typically mortgages, at a specified time in the future at a specified price and coupon rate. An optional commitment is typically fulfilled by delivery of the underlying mortgages from the short position (seller) to the long (buyer).

Options risk — the risk that an option or options attached to other financial instruments will change the value of the financial instrument. In the thrift industry, prepayment risk (the option to prepay) is the most common form of options risk.

PAC tranche — planned amortization tranche of a CMO. A PAC tranche has a stable prepayment rate. Changes in prepayment rates in the underlying pool of mortgages are absorbed first by another tranche, called a support tranche, so that the PAC remains unaffected by prepayment risk.

PO — see principal-only securities.

Prepayment risk — the risk that prepayments on pools of mortgages or mortgage-related instrument or other amortizing instrument will prepay faster or slower than expected. Prepayments are linked to interest rates, among other factors. A falling rate on new mortgages leads to faster prepayments of old mortgages and refinancings. A rising rate on new mortgages leads to fewer prepayments of older mortgages.

Principal-only securities (POs) — stripped mortgage-backed securities that pay only the principal portion of the monthly cash flows received on the collateral.

Real estate mortgage investment conduits (REMICs) — see collateralized mortgage obligations (CMOs).

Residual — a tranche created in a CMO that pays cash flows equalling the excess of the cash flows from the collateral over the coupon payments to the bonds in the CMO.

Risk-Controlled Arbitrage — the purchase of a mortgage-related asset, normally a mortgage-backed security (MBS), funded by a short-term liability, such as a reverse repurchase agreement (reverse repo). These newly purchased assets are then used as collateral to borrow additional funds that are then invested in more MBSs, thus highly leveraging the original asset.

Sequential tranche — one of a group of CMO tranches in a sequence. A sequential tranche does not begin principal paydown until the sequential tranche before it, if any, completes principal paydown. A sequential order of tranches is the most basic form of a CMO.

Stripped mortgage-backed security (SMBS) — a security having mortgages or mortgage-backed securities as collateral that divides cash flows from the collateral into two classes, an interest-only (IO) class, and a principal-only (PO) class.

Superfloater — A CMO tranche whose coupon adjusts in the same direction as, and by a multiple of, a specified index, such as LIBOR (for example, 2 x LIBOR – 3%).

Support tranche — a CMO tranche that absorbs extra prepayment risk so that the tranche or tranches that it supports will have little prepayment risk. The bond that a support tranche protects is usually a PAC (planned amortization class).

Swap — an interest-rate swap is an agreement to exchange future cash flows based on some notional amount and two interest rates, generally a fixed rate and a floating index. One party pays the fixed rate and receives the floating index rate, while the other pays the floating rate and receives the fixed rate. Both participants in a swap are obligated to perform. Swaps may be offset by mutual agreement of the parties to the swap. Swaps are traded over the counter, so counterparty risk exists. A basis swap exchanges two floating-rate indexes, for example 11th District cost of funds for LIBOR.

Swaption — an option to enter a swap to exchange a given number of cash flows of a specified fixed rate for a specified floating-index rate on or before a given date.

TAC — targeted amortization class. A TAC is a CMO tranche that has reduced prepayment risk, but the weighted average life is not as stable when prepayments on the underlying mortgages change as in a PAC (planned amortization class) tranche.

TB 13 — Thrift Bulletin 13. TB 13 provides guidance on the responsibilities of thrifts' boards of directors and management with regard to interest-rate risk. It describes the internal policies, practices, and procedures that supervisory staff will expect institutions to use to meet existing regulations on interest rate risk.

TB 52 — Thrift Bulletin 52. OTS's version of the FFIEC statement on securities activities. Section III outlines policy on mortgage derivative products, other asset-backed products, and zero-coupon bonds.

TFR — thrift financial reports. Savings associations file these reports quarterly with the OTS. The TFR is the OTS version of the bank call reports.

Tranche — one of the individual bonds issued in a CMO.

Volatility — the variability in rates or prices. Volatility is commonly measured as the annual standard deviation of percentage changes. Percentage change is typically measured by the change in logarithm of rate or price.

Weighted average life (WAL) — the weighted time until the receipt of principal from a security, with the weights being the fraction of principal received in each payment period.

Z-tranche — a long-term bond in a CMO that does not pay out principal or interest in the early years. Z-tranches are often support tranches for other tranches such as PACs. Z-tranches absorb the risk of prepayments so that the PACs have low prepayment risk. Z-tranches have a great deal of interest-rate volatility and prepayment risk.

Methodologies for Estimating Economic Values in the OTS Net Portfolio Value Model

Risk Management Division
Office of Thrift Supervision

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A. The Reporting Form (Schedule CMR)

The results of the OTS Model are based on data provided quarterly on Schedule CMR of the Thrift Financial Report. Beginning in March 1993, all OTS-regulated savings institutions with assets in excess of $300 million, or with risk-based capital ratios below 12 percent began to file Schedule CMR. Schedule CMR is collected on a consolidated basis and provides information about the interest rate, repricing, and maturity characteristics of financial instruments held by savings associations. Schedule CMR was designed to replace Schedule MR.

In addition to redesigned sections for assets, liabilities, and off-balance sheet instruments, Schedule CMR includes two new sections not included in Schedule MR. In the section called "Reporting of Market Value Estimates" institutions can report their own estimates of the economic value of certain complex financial instruments (such as collateralized mortgage obligations) in each of the alternative interest scenarios considered by the OTS Model. These estimates are used in calculating institutions' interest rate exposure estimates. In the "Optional Supplemental Reporting" section, institutions have the option of reporting data in an even more disaggregated manner than in the required sections of Schedule CMR for certain types of instruments.

A brief description of each of the five sections of Schedule CMR is given below. For information on how the OTS Model uses the CMR data to value financial instruments, see the descriptions of methodologies for individual instruments in Section B.

1. Assets

Fixed-Rate Single Family First Mortgages

Schedule CMR collects separate information on 30-year, 15-year, and balloon mortgages by coupon range. Information on mortgage loans and securities is collected separately within each of these categories. Schedule CMR also distinguishes private issue, FNMA, and FHLMC securities from GNMA securities (and conventional from FHA/VA loans), and establishes a separate category for construction and land loans (which were included with single-family first mortgages on Schedule MR).

Adjustable-Rate Single Family First Mortgages

Schedule CMR collects information by type of index and distinguishes "teaser rate" from non-teaser rate ARMs. CMR also collects information on margins and the proportion of loans versus securities for each type of ARM, as well as information on lifetime rate caps and floors and on periodic rate caps and floors.

Other Mortgages and Nonmortgage Loans

Schedule CMR distinguishes adjustable-rate from fixed-rate loans for all types of multifamily and nonresidential mortgages and nonmortgage loans. CMR collects information about indices to which adjustable-rate loans are tied, as well as their reset frequency and average margin. CMR also collects information separately for fully-amortizing and balloon multifamily and nonresidential mortgages. In addition, institutions may report balances further disaggregated by index type and by type of consumer loan (e.g., auto, credit card) in the Optional Supplemental Reporting section of Schedule CMR.

Mortgage Derivative Securities

Schedule CMR requires an institution to report its own estimates of the economic value of its mortgage derivative products in each of the nine interest rate scenarios evaluated by the OTS Model if the institution exhibits any of the following conditions.

(1) Assets exceed $500 million;

(2) They hold "high-risk" mortgage derivative securities acquired after December 31, 1988; or

(3) The book value of mortgage derivatives exceeds five percent of assets.

Other institutions may do so optionally.

Cash, Deposits, and Securities

Schedule CMR groups these assets into seven categories based on their cash flow characteristics and credit risk so that appropriate assumptions may be applied in estimating the sensitivities of their economic values to changes in interest rates.

2. Liabilities

Certificates of Deposits (Fixed-Rate)

Schedule CMR collects information on original maturity, early withdrawal penalties, balances in brokered deposits, and, at the reporting institution's option, information on early withdrawals and balances in new accounts.

Fixed-Maturity, Variable Rate Liabilities

Schedule CMR distinguishes variable-rate CDs, FHLB advances, and other borrowings, and collects information on their index rates, margins, reset frequencies, and months to next reset.

Demand Deposits

Schedule CMR distinguishes interest bearing from noninterest bearing deposits and, at the reporting institution's option, collects information on new accounts that OTS will attempt to use in the future to estimate institution-specific attrition rates.

3. Off-balance Sheet Contracts

The off-balance sheet section of Schedule CMR is designed to collect information on some instruments on an individual basis. That is, for certain positions such as interest rate swaps, institutions report each OBS position separately on Schedule CMR, along with information needed to value the position. For contracts that would be too numerous to report separately, such as commitments to purchase, sell, or originate mortgages, positions are aggregated on the reporting form.

To determine the economic value of an OBS contract, information is needed on the type of contract, its notional amount, its maturity, and the interest rate and price specified in the contract. Schedule CMR uses four-digit codes to distinguish 277 different OBS contracts. Institutions report a contract code for each type of contract, and report the notional principal amount, maturity, price, and rate of the position held. Any OBS contract for which there is no contract code is to be valued by the institution in each of the alternate rate scenarios and be reported in the section titled "Reporting of Market Value Estimates."

4. Reporting of Market Value Estimates

In this section of Schedule CMR institutions may report their own estimates of the economic value of certain financial instruments in each of the alternative interest rate scenarios considered by the OTS Model.

Institutions meeting certain conditions are required to report the economic value of their mortgage-derivative securities in this section, as are those that hold unusual off-balance sheet contracts for which there is no identifying code for the reporting of off-balance sheet contracts. In addition, at their option, institutions may report economic value estimates of FSLIC, RTC and FDIC agreements, certain options embedded in liabilities, and CMOs issued by the institution.

5. Optional Supplemental Reporting for Assets/Liabilities

In this section of Schedule CMR, institutions have the option of reporting data on selected assets and liabilities in a more disaggregated manner than in the Assets and Liabilities sections of CMR. Optional Supplemental Reporting is available for adjustable-rate loans other than single-family mortgages, mortgage-related mutual funds, certain investment securities, and variable-rate, fixed-maturity liabilities.

B. Methodologies for Estimating Economic Value

1. Overview

A fundamental characteristic of all financial instruments is that they give rise to cash flows. The value of any financial instrument can be estimated by projecting the amount and timing of future net cash flows associated with the instrument, and discounting those cash flows with appropriate discount rates. This procedure for estimating the value of a financial instrument is commonly referred to as discounted cash flow analysis, or present value analysis. The basic formula for the present value of a financial instrument is as follows:

$$(1) \quad PV = \frac{CF_1}{(1+i)} + \frac{CF_2}{(1+i)^2} + \ldots + \frac{CF_n}{(1+i)^n}$$

where PV is the present value of the instrument; CF_1 is the first cash flow receipt or payment; CF_2 is the second receipt or payment, and so forth; and i is the yield at which the cash flows are discounted. The discounted cash flow approach is used by the OTS Model to estimate the economic value of most assets, liabilities, and off-balance sheet contracts.

The discount rate is the rate of return necessary to induce investors to hold a financial instrument. For any given instrument, the required rate of return is equal to the risk-free rate plus the risk premium necessary to compensate the investor for any additional risk (e.g., credit risk, liquidity risk) associated with the particular instrument.

The discount rate will rise or fall with the general level of interest rates. As interest rates rise, investors require higher rates of return, and therefore, use higher discount rates to value cash flows expected from financial instruments. This causes the value of those cash flows, and thus the market price of the instruments, to decline. The reverse is true for a decline in interest rates. Of course, the size and timing of the cash flows themselves may change as market interest rates change. Such changes could result from changes in prepayment rates, for example, or from the repricing of adjustable-rate instruments.

The OTS Model uses two cash flow-based valuation methodologies: (1) static discounted cash flow analysis, and (2) an option-based pricing analysis, which is a form of discounted cash flow analysis modified to value assets that contain embedded options. In addition, there is a third type of valuation methodology, the Black-Scholes model, that is used to value exchange traded options and some other off-balance sheet instruments. The approach selected for each type of financial instrument depends on the nature of the instrument and the availability of data.

2. Static Discounted Cash Flow Analysis

Under the static discounted cash flow approach, the economic value of a financial instrument is calculated as the present value of the instrument's expected cash flows. The present value is determined by discounting the cash flows the instrument is expected to generate by the yields currently available to investors from other instruments of comparable risk and duration. To calculate the present value, therefore, information is needed about the size and timing of cash flows and about the appropriate discount rates.

The OTS Model projects future cash flows under nine alternate interest rate scenarios. Under each scenario, a single path of future interest rates is assumed to be based on the Treasury yield curve, plus or minus the rate shock for that scenario. Cash flows are calculated under each scenario based upon the assumed interest rate path depicted in that scenario.

Cash flows may differ across scenarios for two reasons. First, loan prepayment and deposit attrition rates will differ, since borrowers and depositors will make different decisions about these actions under different interest rate environments. Such differences in customer behavior modeled by specifying a relationship between the interest rate scenario and the rates of asset prepayment and deposit attrition, and thereby changes the magnitude and timing of principal and interest flows. Second, interest payments differ across scenarios as adjustable-rate instruments, including many deposits, reprice in future periods.

Coupons of adjustable-rate instruments are based on the projected value of the index to which the instrument is contractually tied as in the case of ARMs (or which appear empirically to have influenced the level of rates on administered rate accounts such as NOW accounts.) In general, indices are projected by relating them to the Treasury implied forward rates.[1]

The basic principle behind choosing discount rates is that they should represent the yields obtainable from instruments with the same risk and duration as those of the cash flows being discounted. Thus, if one were calculating the present value of a U.S. Treasury security, an appropriate sequence of discount rates for each of its cash flows would be the sequence of zero-coupon Treasury rates with maturities corresponding to the dates on which each cash flow is anticipated. The present value calculation in this example differs slightly from that in equation (1), above, and is illustrated as follows:

$$(2) \quad PV = \frac{CF_1}{(1+i_1)} + \frac{CF_2}{(1+i_2)^2} + \ldots + \frac{CF_n}{(1+i_n)^n}$$

The difference between this calculation and equation (1) is that subscripts have been added to the discount rates, i_1 through i_n, to denote that each cash flow is being discounted by a different rate. In this example, the i variables represent the zero-coupon Treasury rates with maturities corresponding to the dates on which cash flows will be generated by the security being valued.

The discount rates of all assets valued by the OTS Model consist of the zero-coupon Treasury rates observed as of the reporting date, plus a spread to account for the risk difference between the instrument being valued and Treasury securities. The spread to the zero-coupon Treasury curve is unique. It is calculated in one of two ways depending on the availability of market data. Where market price quotes are readily available for instruments with the same characteristics as those being valued (e.g., single family mortgage loans and securities, and multifamily mortgage loans), the spread is calculated so that the sum of the discounted cash flows (calculated given maturity, amortization, prepayment, and repricing characteristics) equals the observed market price.

[1] For a description of the calculation of the implied forward rates, see Fabozzi and Fabozzi, *Bond Markets, Analysis, and Strategies*, Prentice Hall, 1989 (pp. 106-109).

For instruments for which reliable price quotes are not available (e.g., consumer and commercial loans), current lending rates on similar assets are used to calculate the spread. For each type of asset, the spread is calculated so that, using the current market rate on that asset to calculate cash flows, the sum of the discounted cash flows equals the face value of the loan, or par. Estimates of current market rates are available from the Thrift Financial Report or through surveys, such as that conducted by the Federal Reserve on current market rates of consumer loans.

On the liability side of the balance sheet, deposit cash flows are discounted using secondary market CD yields and borrowings are discounted using zero-coupon LIBOR (London Interbank Offered Rates).

It is assumed that the risk premium required by investors will not change under the alternative interest rate scenarios. Thus, for the alternative rate scenarios, each discount rate is calculated by simply summing the appropriate base case zero-coupon rate, the spread, and the amount of the interest rate shock. As discussed above, under the alternative interest rate scenarios, cash flows are also revised to reflect different loan prepayment or deposit attrition rates and, if applicable, to reflect repricing of the instrument. To calculate the present value in the alternative rate scenario, the revised cash flows are then discounted by the new discount rates.

OTS uses the static discounted cash flow approach to value non-mortgage loans and certain mortgage loans that have insufficient data to apply the option-based approach, all liabilities, and several off-balance sheet instruments.

3. Option-Based Pricing Analysis

The option-based pricing approach — also known as option-adjusted spread (OAS) methodology — is a technique for valuing assets that contain embedded options. Perhaps the most significant embedded options from the perspective of savings associations are the prepayment options contained in mortgages and mortgage-related securities and the interest rate caps on adjustable-rate mortgages. Prepayment options introduce significant uncertainty into the timing of mortgage cash flows. When mortgage rates fall significantly, mortgage prepayments typically accelerate, forcing associations to reinvest the proceeds of the prepayments at lower rates. An important aspect of valuing a mortgage (or mortgage-related security), therefore, is determining the appropriate value of the option component of the mortgage.

Option-based pricing models are designed to provide improved mortgage valuation estimates by taking interest rate volatility into account. These models use an interest rate simulation program to generate numerous interest rate paths that, in conjunction with a prepayment model, are used to estimate mortgage cash flows along each path.[2] These cash flows are then discounted and averaged to arrive at a single mortgage price.

By estimating the value of a mortgage over numerous possible interest rate paths, an option-based model provides a more accurate estimate of the market value of a mortgage than could be derived from a static cash flow model, which assumes a single interest rate and prepayment path. (In fact, the option-based approach actually repeats the static cash flow approach many times with different interest rate paths and averages the results.)

The option-based valuation approach that the OTS Model uses is briefly described as follows.

(1) Projection of short-term interest rates. The interest rate simulation model uses an empirically estimated equation to generate 200 randomly determined interest rate paths for short-term interest rates based on an assumed level of interest rate volatility. The Model incorporates the current term structure of interest rates as a starting point and projects the path of monthly interest rates over a 360 month period. The paths are generated in a manner that makes the simulation consistent with the observed Treasury yield curve. Thus, if Treasury securities are priced using the simulation, the Model returns exactly the currently observed Treasury prices. In this way, all securities can be accurately compared to the yardstick of Treasury securities.

(2) Projection of mortgage rates. The interest rate model also generates a path of future fixed-rate mortgage coupons and of future coupons of each type of adjustable-rate mortgage valued by the Model. The Model uses a separate volatility assumption for the fixed-rate mortgage rates, but assumes that a degree of correlation exists between short-term rates and the fixed-rate mortgage rates. The result is that each of the 200 paths contains a short-term rate, an associated fixed-rate mortgage rate, and a projected coupon for each type of ARM for the next 360 months.

(3) Prepayment projections. Prepayment equations are used to project prepayments along each interest rate path depending on the ratio of the coupon of the mortgage loan or security being valued to the projected fixed-rate mortgage rate at each point along the path. The Model uses separate prepayment equations for 30-year conventional mortgages, 30-year FHA/VA

[2] An interest rate path is a sequence of 360 monthly interest rates. Three hundred and sixty months are used because that is the maturity of the longest-lived mortgages (i.e., thirty years) valued by the Model.

mortgages, 15-year and balloon mortgages, and adjustable-rate mortgages. The prepayment equations are based on the rate-scenario specific prepayment forecasts of several Wall Street firms.

(4) Valuation of projected cash flows. Cash flows are generated for each month along an interest rate path using scheduled amortization, coupon payments, and prepayments. A price for each path is calculated for the loan or security by discounting that path's projected cash flows by the sequence of short-term rates associated with that cash flow plus a spread. The spread, known as the "option-adjusted spread," is chosen so that the average of the prices resulting from the 200 simulated rate paths is equal to the currently observed market price of a similar loan or security.

(5) Valuation of cash flows projected in other scenarios. Once the option-adjusted spread has been calculated, mortgage prices can be calculated under the alternate interest rate scenarios. To model such a scenario, steps 1 through 3 are repeated, but starting with a term structure that has been subjected to a parallel shock of the desired magnitude (i.e., plus or minus 200 basis points). Step 4 is then repeated with cash flows being discounted by the new sequence of asociated short-term rates plus the same option-adjusted spread as the base case. The average of the 200 discounted cash flows represents the shocked rate scenario's price for that mortgage.

The Model uses the option-based approach to value single family fixed-rate and adjustable-rate mortgages and mortgage servicing assets.

4. The Black-Scholes Model

The OTS Model uses a derivative of the Black-Scholes option valuation model to value the following types of off-balance sheet contracts:

- optional commitments to purchase or sell mortgages
- swaptions (options on swaps)
- interest-rate caps
- interest-rate floors
- options on futures

This model, sometimes referred to as the "Black 76" model, values options on futures and other forward contracts.[3] To calculate the option's value, the model requires the input of five variables that characterize the option. These variables are (1) the future or forward price of the instrument underlying the option, (2) the strike price, (3) the volatility of the underlying instrument, (4) the time to expiration of the option, and (5) the risk-free rate of interest.

[3] For more information, see Stephen Figlewski, Chapter 3 in Stephen Figlewski, William L. Silber, and Marti G. Subrahmanyan, editors, *Financial Options: From Theory to Practice*, Business One Irwin: Homewood, IL, 1990.

To calculate the value of an option in the shocked-rate environment, two adjustments are made to the inputs of the model. The yield curve (LIBOR or Treasury) is shocked to generate a new forward price for the instrument underlying the option and the risk-free rate of return is adjusted by the amount of the shock.

5. Summary of Methodologies for Assets

This section summarizes the methodologies used by the OTS Model to estimate the economic value of each of the asset categories listed on Schedule CMR.

a. Single Family Fixed-Rate Mortgage Loans and Securities

The option-based pricing approach is used to value single family fixed-rate mortgage (FRM) loans and securities. This approach takes into account the effect of embedded options (prepayments and, in the case of adjustable-rate mortgages, interest rate and payment caps) on mortgage prices. The Model uses an interest rate simulation program to generate numerous interest rate paths that, in conjunction with a prepayment model, are used to estimate mortgage cash flows along each path. Those cash flows are then discounted and averaged to arrive at a single mortgage price.

Schedule CMR separately collects information on outstanding balances, coupons, and maturities of four types of fixed-rate mortgage loans: 30-year conventional, 30-year FHA/VA, 15-year original maturity, and balloon payment mortgages. Analogous information is reported separately for mortgage securities backed by each of the same four types of fixed-rate mortgages. All information is reported in five separate coupon ranges (less than 8 percent, 8 to 8.99, 9 to 9.99, 10 to 10.99, and 11 percent and above).

The availability of disaggregated data allows the Model to estimate the value of the FRM portfolio as consisting of eight fairly specific types of instruments (i.e., the four types of mortgage loans and four types of mortgage securities).

The eight categories of FRMs that are reported differ in both their projected cash flows and in the discount rates used to discount them. Modeling of cash flows takes account of each instrument's particular amortization schedule and, to the extent possible, takes account of differing prepayment characteristics. For example, separate prepayment functions are used to estimate prepayments on conventional loans and FHA/VA loans (as well as the securities backed by those types of loans). Cash flows are discounted using the zero-coupon Treasury yield curve plus the option adjusted spread for the particular instrument being modeled. Separate option adjusted spreads (OASs) are derived each quarter for several representative coupons and maturities of each type of instrument, based on their observed market prices at that time.

For the current and shocked interest rate scenarios, OTS uses the OAS methodology to estimate prices for several different coupon and maturity combinations of each type of mortgage instrument. Those price estimates are stored in the form of a separate pricing "look-up" table for each type of instrument.[4] Economic values for each of the balances reported by the institution will then be calculated by reference to the pricing table that corresponds to that particular type of mortgage instrument. Because the tables contain price estimates for only a limited number of coupon and maturity combinations for each type of instrument, prices for the specific coupon/maturity combination reported are obtained by interpolating between the relevant lines in the table.

b. Single Family Adjustable-Rate Mortgage Loans and Securities

The OAS approach is also used to estimate the value of single family adjustable-rate mortgage (ARM) loans and securities. Schedule CMR collects information on ARMs in five columns that correspond to the frequency with which the mortgage rate resets and the type of index on which it is based (e.g., 1-year current market index, 1-month lagging market index). Each column actually accommodates a number of possible indexes and a range of reset frequencies, but balances in the five columns are assumed for modeling purposes to consist of the most prevalent types of ARMs in that index and reset range. These are, respectively, ARMs indexed to 6-month Treasury, 1-year Treasury, 3-year Treasury, 1-month 11th District Cost of Funds Index (COFI), and 12-month COFI. All other information about ARMs, described below, is collected separately for each of the five columns, so that the balances in each column may be modeled separately using the information submitted by the reporting institution.

The outstanding balance and weighted average coupon of ARMs subject to introductory "teaser" rates are collected separately from other ARMs, allowing teaser ARMs to be modeled separately. Teaser ARMs not only have low coupons relative to otherwise equivalent ARMs but the option value implicit in their periodic interest rate caps is higher than that of otherwise identical non-teaser ARMs.[5] These characteristics would result in aggregation error if teaser ARMs were not treated separately.

[4] Excerpts from these pricing tables are available to all OTS-regulated thrifts at no charge and at an annual charge of $40 to other interested parties.

[5] Because teaser ARMs start at a less than fully-indexed interest rate, the probability that their first rate reset will be constrained by the periodic rate cap is higher than for a non-teaser ARM that is otherwise identical.

For non-teaser ARMs of each type of index, in addition to information about balance, coupon, time to next coupon reset, and maturity, the reporting form collects the average margin, and information about interest rate caps on the loans.

Schedule CMR collects fairly detailed information about periodic and lifetime interest rate caps, because aggregation error can be especially severe for option-like instruments such as caps. In reporting on Schedule CMR, institutions provide information that allows their ARMs to be segregated into four groups on the basis of the distance between their current coupons and lifetime rate caps. Each group is valued separately, based on its reported weighted average lifetime cap. This approach reduces the amount of aggregation error by aggregating across several relatively narrow bands rather than one large one.

In addition to caps, information is reported about periodic and lifetime interest rate floors, allowing those features to be incorporated into the price estimates, where relevant. Finally, institutions report information permitting ARM whole loans and ARM securities to be valued separately.

The OTS Model projects the COF index in each future month using the following equation where $COFL_1$ is the value of the index in the previous month, and T1YR is the projected one year Treasury yield in each future month.

$$COFI = .9041*COFL_1 - .0959*T1YR$$

For each type of ARM (e.g., 1-year current market index, 1-month lagging market index), OTS uses the OAS methodology to estimate economic values for various combinations of margin, current coupon, time to next reset, maturity, lifetime cap level, and presence or absence of lifetime floors and periodic caps and floors. Those estimates are stored in a series of ten large "look-up" tables (both ARM loans and securities for each of the five indices noted above. Economic values for each of the balances reported by the institution are then calculated by interpolating between the relevant pricing table lines corresponding to that particular type of ARM instrument.

c. Multifamily and Nonresidential Mortgages

The OTS Model uses the static discounted cash flow approach to value multifamily and nonresidential mortgage loans and securities. Because a significant percentage of these mortgages are balloon loans, balances are divided into balloon and fully amortizing categories on Schedule CMR. Balances are further divided into fixed-rate and adjustable-rate categories.

For fixed-rate balances, Schedule CMR collects the weighted average maturity and the coupon. For adjustable-rate balances, CMR collects the following: the index type (reported as a code) to which the largest percentage of the institution's balances are tied; the reset frequency of the loans tied to that index; the weighted average margin; the weighted average maturity; the volume of balances with coupons currently within 300 basis points of their lifetime interest rate caps; and, for those balances, the weighted average difference (in basis points) between the coupon and lifetime cap. In addition, for balloon mortgages, CMR collects the remaining term to full amortization.

The OTS Model values the four types of mortgages (fixed-rate balloons, fixed-rate fully amortizing, adjustable-rate balloons, and adjustable-rate fully amortizing) separately, using maturity, amortization, and rate and cap information specific to each type. All balances are assumed to pay monthly principal and interest cash flows. The coupons of adjustable-rate mortgages (equal to the projected value of the index plus the reported margin) resets with the reported frequency, but subject to any interest rate caps. Due to the prevalence of prepayment penalties on these types of mortgages, prepayment rates for all multifamily and nonresidential mortgages are assumed to be zero. Although this category may include multifamily securities as well as loans, Schedule CMR does not distinguish between them. Consequently, all balances are valued as mortgage loans, not securities.

Each monthly cash flow is discounted by the Treasury zero-coupon yield appropriate for that month plus a spread. That spread is calculated so that, on average, the spread plus the zero-coupon yields equals the required net yield for 30 day commitments on multifamily mortgages posted by FHLMC or FNMA.

Institutions holding adjustable-rate multifamily and nonresidential mortgages tied to a variety of different indices may, at their option, report those balances disaggregated by index type in the Optional Supplemental Reporting section of Schedule CMR. The valuation methodology for those balances is the same as that described above, but with the coupon on each reset date being set equal to the projected value of the individually reported index plus the reported margin.

d. Construction and Land Loans

The OTS model uses the static discounted cash flow approach to value construction and land loans (hereafter referred to collectively as construction loans). Schedule CMR collects the outstanding balances of fixed- and adjustable-rate construction loans, their weighted average remaining maturities, and the weighted average coupon of fixed-rate loans. In addition, for adjustable-rate loans, CMR collects an index code representing the index to which the largest percentage of the reporting institution's adjustable-rate construction balances are tied and the weighted average margin of the loans tied to that index. All reported adjustable-rate balances for the institution are as-

sumed to be tied to that index. The index is projected over the remaining life of the loans and the coupon rate in each month is calculated as the sum of the index plus the reported margin. That is, the OTS Model treats all adjustable-rate construction loans as having a monthly reset frequency with no interest rate caps or floors.

All construction loans are assumed to pay monthly interest and principal at maturity. No prepayments are assumed. Each monthly cash flow is discounted by the Treasury zero-coupon yield for that month plus a spread. The spread is calculated so that on average, the discount rate is equal to the current lending rate on construction and land loans. The current lending rate is estimated by using the information on margins and indices on adjustable-rate construction and land loans reported in Schedule CMR. It is assumed to be equal to the index most commonly reported by institutions for construction and land loans (e.g., the prime rate) plus the average margin reported by institutions with loans tied to that index.

Institutions holding adjustable-rate construction loans tied to indices other than the one reported in the construction loans section of Schedule CMR, may at their option report their construction loans disaggregated by index type in the Optional Supplemental Reporting Section. The valuation methodology for those balances is the same as that described above with the coupon in each future month being set equal to the projected value of the index plus the reported margin.

e. Second Mortgage Loans

The OTS Model values second mortgage loans using the static discounted cash flow approach. Schedule CMR collects the outstanding balances of fixed and adjustable-rate second mortgage loans, the weighted average maturity of those balances, the coupon of fixed-rate second mortgages, and the margin, reset frequency, and index type for adjustable-rate second mortgages.

Second mortgages are assumed to be level-payment amortizing loans that generate monthly cash flows of interest and principal. Prepayment rates for second mortgages are based on observed prepayment rates of home equity loans underlying asset backed securities.

The coupon on adjustable-rate second mortgages is calculated as the sum of the reported index and the reported margin and changes with the reported reset frequency. The Model treats all second mortgages as having no interest rate caps or floors.

All monthly cash flows are discounted by the Treasury zero-coupon yield for that month plus a spread. That spread is calculated so that, on average, the spread plus the zero-coupon yields will equal the observed current lending rate on adjustable-rate second mortgages. The current lending rate is estimated by using the information on margins and indices on adjustable-rate second mortgages reported in Schedule CMR. It is assumed to be equal to the index most commonly reported by institutions (e.g., the prime rate) plus the average margin reported by institutions with loans tied to that index.

Institutions holding adjustable-rate second mortgages tied to indices other than the one reported in the second mortgages section of Schedule CMR, may at their option report their second mortgages disaggregated by index type in the Optional Supplemental Reporting Section. The valuation methodology for those balances is the same as that described above with the coupon on each reset date being set equal to the forecasted value of the reported index plus the reported margin.

f. Commercial Loans

The OTS Model uses the static discounted cash flow approach to value commercial loans. Schedule CMR collects the outstanding balances of fixed- and adjustable-rate commercial loans, their weighted average remaining maturity, the weighted average coupon of fixed-rate loans, and the weighted average margin of adjustable-rate loans. All loans are assumed to pay monthly interest and principal at maturity. No prepayments are assumed.

Adjustable-rate loans are assumed to be indexed to the prime rate and to reset monthly. The interest rate on adjustable-rate loans in each future month is equal to the projected prime rate in each future month plus the reported margin. The prime rate is projected based on implied forward Treasury yields.

An estimate of the current lending rates on adjustable-rate commercial loans held by savings associations is used to calculate the discount rate for commercial loan cash flows. The current lending rates are estimated by using the information on margins on commercial loans reported on Schedule CMR. The current lending rate is assumed to be equal to the prime rate plus the average margin reported by institutions. The discount rate in each future month is calculated as the zero-coupon Treasury yield in that month plus a spread. The spread is calculated such that, on average, the spread plus the zero-coupon yields will equal the estimated current lending rate.

Institutions holding adjustable-rate commercial loans tied to indices other than prime may, at their option, report their commercial loan balances disaggregated by index type in the Optional Supplemental Reporting Section of Schedule CMR. The valuation methodology for those balances is the same as that described above, except the loan coupon in each future month is equal to the projected value of the particular reported index plus the reported margin.

g. Consumer Loans

The OTS Model uses the static discounted cash flow approach to value consumer loans. Schedule CMR collects the outstanding balances of fixed- and adjustable-rate consumer loans, their weighted average remaining maturity, and the weighted average coupon on fixed-rate loans. In addition, for adjustable-rate loans, Schedule CMR collects the index to which the largest percentage of loans are tied, the weighted average margin, and the loans' reset frequency. All adjustable-rate consumer loans are assumed to reset based on that index, with the reported reset frequency.

All consumer loans are assumed to be level-payment amortizing loans that generate monthly cash flows of interest and principal. On Schedule SC of the Thrift Financial Report, consumer loan balances are broken down into eight types. The OTS Model determines a unique weighted average prepayment rate for each institution's total consumer loan balances, using as weights the proportion of balances represented by each loan type on Schedule SC. OTS bases prepayment estimates for each type of loan on observed prepayment rates of collateral underlying various types of asset backed securities. Prepayment rates are assumed to remain constant in the alternate rate scenarios.

Using the balances reported by type on Schedule SC, the OTS Model determines a unique weighted average discount rate for each institution's consumer loan balances. For each loan type, the discount rate in each future month is calculated as the zero-coupon Treasury yield in that month plus a spread. Each spread is calculated such that, on average, the spread plus the zero coupon yield equals the observed yield on an asset backed security with collateral of that loan type. For consumer loan types for which secondary market yields are not readily available, current market lending rates from Federal Reserve statistical release G.19 will be used.

Institutions may, at their option, report their consumer loans in a more disaggregated manner in the Optional Supplemental section of Schedule CMR. Balances may be disaggregated by loan type and index. The OTS model then applies coupon reset assumptions, discount rates, and prepayment rates specific to each type of consumer loan.

h. Mortgage Derivative Securities

Mortgage derivative securities include collateralized mortgage obligations (CMOs), interest-only strips (IOs), principal only strips (POs), residuals, CMO swaps, and other instruments with similar characteristics.

Savings associations report the book value of their holdings of mortgage derivative securities in the appropriate cells of Schedule CMR. Schedule CMR lists 19 types of mortgage derivatives which are subdivided into high-risk and low-risk categories. In the OTS Model mortgage derivatives are valued using one of two approaches, a "self-reporting" approach or a benchmark approach, depending on whether the savings association meets certain criteria. Under the self-reporting approach, institutions report their own estimates of the economic value of their mortgage derivatives in each of the interest rate scenarios evaluated by the OTS model. These estimates are then incorporated directly into the results of the OTS Model to estimate institutions' interest rate exposure. Savings associations meeting the following criteria are required to report their own economic value estimates for mortgage derivatives.

a. Assets exceeding $500 million, or

b. Any "high-risk" mortgage derivatives acquired after December 31, 1988 (see Thrift Bulletin 52 for a definition of high-risk derivatives), or

c. The book value of mortgage derivatives exceeds 5 percent of assets.

Savings associations not required to provide their own estimates may provide the estimates if they wish. The self-reporting approach should result in better estimates of the interest rate sensitivity of these instruments than the benchmark approach described below.

OTS uses a benchmark approach to value the mortgage derivatives of savings associations that do not use the self-reporting approach. Under this approach, a benchmark security is chosen to represent the securities that savings associations report in each of the cells. The economic value of the derivatives in each cell are estimated in each interest rate scenario based upon the price of the benchmark representing that cell in each of those scenarios. Prepayment rates assumed for the underlying collateral are the same as, or similar, to those used to value mortgage securities. A listing of the benchmarks and their pricing profiles will be included in the "Asset and Liability Pricing Tables," published by OTS each quarter. The benchmark for each class of derivative will be updated when necessary.

IOs and POs are priced using the OAS methodology of the NPV Model. The NPV Model uses the coupon information reported by savings institutions and assumed maturities to calculate the economic value in each scenario.

i. Mortgage Loan Servicing Rights and Mortgage Loans Serviced by Others

i. Mortgage Loan Servicing Rights

The OTS Model uses the same OAS methodology to value servicing that it uses to value single-family mortgage loans and securities. See Section B.3 for a discussion of the OAS methodology.

The outstanding balances of fixed-rate mortgage loans serviced for others are reported on Schedule CMR in five coupon ranges (less than 8 percent, 8 to 8.99, 9.00 to 9.99, 10 to 10.99, and 11 percent and above). Balances of adjustable-rate mortgages tied to current market indices (e.g., the 1-year Constant Maturity Treasury yield) are reported separately from those tied to lagging market indices (e.g. the 11th District Cost of Funds). The OTS Model treats all current market index loans as 1-year CMT ARMs and all lagging market index ARMs as 1-month COFI ARMs. CMR also collects the weighted average remaining maturity and the weighted average servicing fee for each of the reported balances, the number loans serviced, and the number of loans subserviced by others.

The estimated economic value of mortgage servicing is equal to the discounted present value of servicing fee income and ancillary income, minus the discounted present value of servicing cost outflows. The value derived from escrow deposits associated with mortgages serviced for others is calculated separately. (See section 6.C.) Monthly servicing fee cash flows are estimated by adjusting the balances reported on CMR for expected prepayments and amortization, and multiplying the outstanding balances in each month by the reported weighted average servicing fee. Monthly ancillary income is estimated by adjusting the reported number of loans outstanding for expected prepayments and multiplying the number of loans serviced by an estimate of monthly ancillary income.

Servicing cost outflows are estimated in the same manner as ancillary income cash flows. That is, by adjusting the reported number of loans serviced for expected prepayments and multiplying the number of loans serviced by an estimate of monthly servicing cost.

Estimates of per-loan ancillary income and servicing cost are taken from the Mortgage Bankers Association's (MBA) annual survey. These estimates will be updated annually as new estimates become available.

All monthly cash flows are discounted by the Treasury zero-coupon yield for that month plus a spread. The spread is calculated so that on average, the discount rate is equal to the current required yield in the servicing market. The required yield will be obtained quarterly from information provided by dealers in the servicing market.

ii. Mortgage Loans Serviced by Others

In the valuation of single-family whole loans held in portfolio, the OTS model deducts a servicing cost of 20 basis points per annum from monthly cash flows. Some institutions own mortgages that are serviced by others, and may pay a fee of more or less than 20 basis points to the servicer. The discounted present value of the stream of fees on loans serviced by others (less the 20 basis points already deducted in the valuation of the loan itself) represents a deduction from the value of the institution's mortgages. Conversely, if the servicing fee an institution is paying to the servicer is less than 20 basis points, the discounted present value of the difference between the two is added to the value of the institution's mortgages.

On Schedule CMR, institutions report the balances of mortgage loans serviced by others and the associated servicing fees separately for fixed-rate mortgages and adjustable-rate mortgages.

For purposes of valuing the servicing fee streams, fixed-rate mortgages serviced by others are assumed to be spread uniformly across the reporting institution's conventional 30-year mortgages, while the adjustable-rate mortgages serviced by others are assumed to be distributed evenly across all ARMs held in portfolio. Both are valued using the OAS methodology.

j. Cash, Non-Interest-Earning Deposits, Overnight Fed Funds, and Overnight Repos

These short-term assets are valued at their face value in all of the interest rate scenarios evaluated by the OTS Model.

k. Equity Securities and Non-Mortgage-Related Mutual Funds

Institutions report the market value of their equity securities and non-mortgage-related mutual funds on Schedule CMR. To value these assets in the alternative interest rate scenarios, the OTS Model assumes their interest rate elasticity to be –4.5 percent. That is, for every 100 basis point increase in interest rates, the value of equity securities and non-mortgage-related mutual funds will be assumed to decrease by 4.5 percent, and vice versa. For example, if an institution reported $100 of equity securities on Schedule CMR, the estimated market value in the plus 200 basis points scenario would be $100 x (1–.09) = $91.00.

This interest rate elasticity was estimated using regression analysis. It was obtained by regressing the monthly average of the Wilshire 5,000 Stock Index on the monthly average ten-year Treasury yield over a five year period. A time variable was included to allow for an upward trend in the index.

l. Mutual Funds With Investments in Mortgage-Related-Securities

Institutions report the market value of non-high-risk mortgage-related mutual fund investments on Schedule CMR and this value is used directly in the base case of the OTS Model. To value these mutual fund investments in the alternative interest rate scenarios, the OTS Model applies the duration of a selected benchmark 30-year, single-family, fixed-rate mortgage security. Institutions may report additional information on the portfolio composition of their mortgage-related mutual funds in the "Optional Supplement Reporting" section of Schedule CMR. This information permits OTS to apply interest-rate sensitivity measures more appropriate to the specific mix of mortgage assets held by the mutual fund in which the institution has invested.

m. Zero-Coupon Securities

These assets are valued using the static discounted cash flow approach. On Schedule CMR, institutions report the carrying value of their zero-coupon securities, the weighted average yield to maturity, and the weighted average maturity. A single cash flow is assumed to occur at the weighted average maturity and is discounted by the Treasury zero-coupon yield applicable to that maturity.

n. Government and Agency Securities and Deposits at FHLBs

These assets are valued using the static discounted cash flow approach. Schedule CMR collects the outstanding principal balance of these instruments and their weighted average coupon and maturity. They are assumed to generate semiannual interest cash flows with principal repaid at maturity. All cash flows are discounted by the Treasury zero-coupon yields applicable to each of those months.

o. Term Federal Funds and Repurchase Agreements, Deposits at Non-FHLBs, and Commercial Paper

These assets are valued using the static discounted cash flow approach. On Schedule CMR, institutions report the outstanding principal balance of these asets and their weighted average coupon and maturity. They are assumed to generate monthly interest cash flows and pay all principal at maturity. The discount rate in each month is calculated as the zero-coupon Treasury yield applicable to that month plus a spread. The spread is calculated such that, on average, the spread plus the zero-coupon yields will equal the 3-month commercial paper rate published in Federal Reserve Release G.13.

p. Other Investment Securities (Municipal Securities, Mortgage-Backed Bonds, Corporate Securities, Etc.)

These assets are valued using the static discounted cash flow approach. On Schedule CMR, institutions report the outstanding principal balance of these assets and their weighted average coupon and maturity. They are assumed to generate semiannual interest cash flows and pay all principal at maturity. The discount rate is the zero-coupon Treasury yield corresponding to the timing of the cash flow, plus a spread. The spread is calculated such that, on average, the spread plus the zero-coupon yields equals the AAA-rated corporate bond rate published in Federal Reserve Release G.13.

q. Nonperforming Loans

On Schedule CMR, institutions report the outstanding principal balance of nonperforming mortgage loans and, separately, of nonperforming nonmortgage loans. The base case value of each is set equal to its reported outstanding balances minus valuation allowances for mortgage loans and nonmortgage loans, respectively. They are assumed to have the same interest rate sensitivities as each institution's total mortgage loan portfolio and total nonmortgage loan portfolio, respectively.

r. Real Estate Held for Investment

Institutions report the carrying value, net of valuation allowances, of real estate held for investment on Schedule CMR. Because the economic value and interest rate sensitivity of real estate investments is very difficult to estimate using financial modeling techniques, OTS assumes their economic value in all interest rate scenarios equals their book value That is, their interest rate sensitivity is zero.

s. Repossessed Assets

Institutions report the carrying value, net of valuation allowances, of repossessed assets on Schedule CMR. The economic value of these assets in all interest rate scenarios is assumed to be equal to their book value. That is, their interest rate sensitivity is assumed to be zero.

t. Investment in Unconsolidated Subsidiaries

Institutions report the carrying value, net of valuation allowances, of their investment in unconsolidated subsidiaries on Schedule CMR. The base case economic value is assumed to equal the book value. These assets are assumed to have the same interest rate sensitivity as the weighted average NPV of the entire savings and loan industry estimated by the OTS Model in the previous quarter.

u. Office Premises and Equipment

Institutions report the book value of office premises and equipment on Schedule CMR. The estimated economic value in all interest rate scenarios is equal to the book value. That is, these assets are assumed to have an interest rate sensitivity of zero.

v. Other Assets

Other Assets consist of Accrued Interest Receivable, Futures/Options Margin Accounts, and Other, including Property Leased to Others. The estimated economic value of these items is equal to the book value in all interest rate scenarios.

6. Summary of Methodologies for Liabilities

This section summarizes the methodologies used by the OTS Model to estimate the economic value of each of the liability categories listed on Schedule CMR.

a. Liability Discount Rate

Discount rates for all deposits (including demand deposits) are based on secondary market CD yields. Cash flows expected to occur within the first six months are discounted using the CD yields directly. Those expected to occur after six months are discounted by the appropriate maturity zero-coupon Treasury yield plus the spread observed at quarter-end between the 6-month secondary market CD yield and the 6-month zero-coupon Treasury yield.

Discount rates for borrowings are based on the London Interbank Offered Rates (LIBOR). LIBOR is the rate that major international banks charge each other for large-volume loans and thus provides a benchmark for the marginal cost of funds for depository institutions. The zero-coupon LIBOR curve is derived from market quotes for several maturities of LIBOR.[6]

b. Demand Deposits

Demand deposits include transaction accounts (NOW, Super NOW, etc.), money market deposit accounts, passbook accounts, and non- interest bearing demand deposits. These liabilities have no stated maturity, and their offered rates react relatively slowly to changes in market rates (except for non-interest bearing deposits which, by definition, do not have an offered rate). Consequently, estimation of the cash outflows of demand deposits requires

[6] The method used to derive the LIBOR curve is similar to that shown in Chapter 10 of Bierwag, G., *Duration Analysis: Managing Interest Rate Risk*, Ballinger Publishing, 1987.

assumptions about the relationship between offered rates, balances, and market rates. These assumptions are then applied to the reported rates and balances to derive economic values for demand deposits.

These relationships were estimated statistically for each type of demand deposit. The change in the offered rate on interest-bearing deposits is assumed to depend on changes in the Treasury bill rate, and is estimated to allow for the possibility of differing speeds of adjustment under rising and falling market rates. Interest payments are assumed to be credited to the account balance rather than paid out monthly. Outflows of accumulated interest and principal depend on the attrition of deposit balances (due to depositor relocation and other factors) and, for interest-bearing deposits, on the relationship between offered and market rates. In addition to principal and interest, the cash outflows of demand deposits also include an estimate of the non-interest cost of maintaining the deposits.

OTS plans to develop the ability to estimate institution-specific attrition rates for core deposits for institutions that elect to report data on Schedule CMR that will permit such estimation.

c. Escrow Accounts

CMR collects balance and weighted average coupon information separately for three types of escrow accounts: (1) escrows associated with mortgages owned by the institution, (2) escrows associated with mortgages serviced for others, and (3) other escrows (i.e., those not associated with mortgages.)

Escrow accounts that are associated with mortgages have some unique characteristics that must be taken into consideration in estimating their economic value. First, escrow accounts have no explicit maturity; rather they remain in existence as long as there are balances outstanding on their associated mortgages. In modeling each future month's escrow balance, therefore, OTS applies to the original escrow balance the monthly prepayment rates that are applied to the associated mortgage balance, either owned or serviced for others. In other words, as a given proportion of the institution's mortgages are prepaid, a like proportion of its escrow accounts are assumed to be paid out.

Second, escrow balances can be highly seasonal, reflecting payment of property taxes. Rather than attempt to model that seasonality, the OTS Model bases the estimated present value of escrows not on the reported quarter-end balance, but instead on the average balance over the last four quarters. By using this average balance as the original balance, and applying successive

monthly mortgage prepayment rates to it, the Model should obtain a reasonable approximation of the balance on deposit in future months.[7]

In projecting monthly escrow cash flows the Model does, thus, not take account of the cyclical build-up and payout of escrow balances, and assumes rather that the seasonal fluctuation averages out. Only the net cash outflows — resulting from prepayment-related account payoffs and from interest payments — are projected. Interest is assumed to be paid out monthly, at the rate reported on Schedule CMR. Account payoffs are calculated each month by applying monthly mortgage prepayment rates (consistent with those used by the Model to value the institution's mortgages) to that month's estimated escrow balance.

These monthly cash flows are calculated separately for mortgages held in portfolio and those serviced for others. The discount rates used to value these two types of escrows are the same as those used to value the associated mortgages or mortgage servicing rights. This approach recognizes that the right to service a mortgage (whether owned or serviced for others) and its associated escrow account are an inseparable bundle.

Other escrows (i.e., those not associated with mortgages) are assumed to have a constant annual run-off rate and to pay interest at the rate reported in Schedule CMR. To calculate their economic value, cash flows are discounted by LIBOR.

In calculating NPV, the current quarter's escrow balances are treated as a liability (at face value). The Model treats as an asset the difference between the institution's four-quarter average escrow balances and the present value of those accounts, calculated as described above. That difference measures the amount of benefit that an institution derives from its low cost escrow deposits and may be viewed as analogous to the GAAP treatment of the core deposit intangible associated with purchased core deposits.[8]

[7] The four-quarter average balance has in the past sometimes been distorted by the purchase or sale of mortgages or mortgage servicing rights which caused sudden one-time changes in institutions' reported escrow balances. To minimize the effect of such purchases or sales, the Model calculates the four-quarter average balance indirectly, as the current quarter-end mortgage balance (either owned or serviced for others) multiplied by the four-quarter average ratio of escrow balances to mortgage balances at the institution.

[8] For example, suppose that the current escrow balance at an institution happens to be zero, as a result of seasonal tax payouts. Also suppose that the institution has a four-quarter average escrow balance of $100 and that the present value of those escrow accounts is $60. The value that this institution derives from its escrow accounts is, thus, worth $40 and will be considered an asset.

The advantage of this approach is that it prevents the spurious fluctuations in NPV that sometimes resulted from seasonal changes in escrow balances in the prior version of the OTS Model.[9]

d. Fixed-Rate, Fixed-Maturity Deposits

Schedule CMR collects the outstanding balance of fixed-rate, fixed-maturity deposits, their weighted average coupon and weighted average remaining maturity, and categorizes them according to their original maturity. It also collects information on early withdrawal penalties and balances in brokered accounts.

The valuation methodology for these deposits differs depending on whether they are retail or brokered accounts. The valuation of retail deposits takes into account the fact that depositors often roll their deposits over at interest rates below those demanded in the wholesale market. Because of this feature, the actual maturity and future offered rates of these deposits have to be projected. The roll-over and offered rate behavior was estimated based on their relationship to market rates. The offered rate on retail deposits of this type reacts somewhat sluggishly to changes in interest rates and a significant proportion of the account balances normally roll-over, and do so at below market interest rates.

Brokered deposits are assumed to be replaced at maturity with deposits paying market rates and to be withdrawn whenever the early-withdrawal penalty is less than the spread between the current market rate and the rate currently being paid on the account.[10]

Both types of deposits, brokered and retail, are assumed to behave like zero-coupon instruments, with monthly payments of interest credited to the account balance rather than being paid out. Outflows of principal and accumulated interest are assumed to occur upon early-withdrawal or when the account balance is no longer rolled over. In addition to principal and accumulated interest, the cash outflows of deposits include an estimate of the non-interest costs attributable to maintaining such deposits.

[9] Suppose an institution, otherwise identical to the one in footnote 8, also has a four-quarter average escrow balance of $100 with a present value of $60, but has a different seasonal pattern of escrow payouts. Because it has not yet made seasonal tax payouts, this institution has a current escrow balance of $200 with which it is currently funding $200 of short-term securities. This institution's escrow accounts also contribute $40 to its NPV. That is, the $200 in short-term securities offsets the $200 in escrow liabilities, leaving the $40 escrow asset. This is a desirable result because, unlike what sometimes happened under OTS' former treatment of escrows, the institution's NPV ought not to be materially affected by whether the reported balances are currently at a seasonal high or low.

[10] The term "brokered deposit" is used here as defined in the FDIC Improvement Act (1991). It refers to funds obtained, directly or indirectly, by or through, any deposit broker for deposit into one or more deposit accounts.

The only early-withdrawal penalties considered explicitly are those stated in terms of months of forgone interest. Different by calculated penalties, as well as other options (e.g., the option to roll over at a predetermined rate, etc.), are not valued by the model, but may be valued by the reporting institution and reported separately in the Schedule CMR section titled, "Reporting of Market Value Estimates."

e. Fixed-Rate, Fixed-Maturity Borrowings

FHLB advances, other borrowings, redeemable preferred stock, and subordinated debt, are aggregated as "fixed-rate, fixed maturity borrowings," and are assumed to have cash flows that depend only on the instruments' remaining maturity and coupon. Thus, cash flows are assumed to consist of monthly or semi-annual interest payments, with all principal paid at maturity. At the institution's option, the economic value of any option embedded in these instruments (e.g., prepayment penalties, call features, etc.) may be valued by the reporting institution and reported separately on Schedule CMR in the section titled, "Reporting of Market Value Estimates."

f. Variable-Rate, Fixed-Maturity Liabilities

This category includes liabilities that have contractually stated maturities and indexed rates (e.g., certificates of deposit, FHLB advances, and other liabilities). Schedule CMR collects information on the main characteristics of each type of variable-rate, fixed-maturity liability (e.g., type of index rate, balance, margin, rate reset frequency, time to next reset, and remaining maturity). Cash flows are assumed to consist of periodic interest payments with principal repaid at maturity.

The interest cash outflows of variable-rate liabilities are estimated based on assumptions about the relationship between the index and market rates. These relationships are estimated statistically for each index rate. Thus, for example, the OTS Model estimates expected future levels of Treasury rates and LIBOR, Fed funds, prime and other rates based on the current Treasury yield curve. At the institution's option, the market value of any embedded options (e.g., early-withdrawal penalties, call features, etc.) may be valued by the institution and reported separately in Schedule CMR, in the section titled, "Reporting of Market Value Estimates."

g. Other Liabilities

This category includes "Collateralized Mortgage Securities Issued," and "Miscellaneous Liabilities I and II." Collateralized Mortgage Securities Issued consists of collateralized mortgage securities that are not recorded as sales. Institutions have the option, and are encouraged, to report the market value of these securities in Schedule CMR in the section, Reporting of Market Value Estimates. For those institutions that elect not to use this option, it is assumed that the economic value of this category is equal to its book value in all interest rate scenarios.

Miscellaneous Liabilities I consists of Accrued Interest Payable, Accumulated and Accrued Taxes, Dividends Payable, Accounts Payable, and Other Liabilities and Deferred Income. The economic value of these liabilities is assumed to be equal to their book value in all interest rate scenarios.

Miscellaneous Liabilities II consists of Financial Options Fees Received, Deferred Gains or Losses on Liability Hedges, and Deferred Income Taxes. The market value of these liabilities is assumed to be zero.

7. Summary of Methodologies for Off-Balance Sheet Positions

This section summarizes the methodologies used by the OTS Model to estimate the economic values of off-balance sheet positions.

a. Optional Commitments to Originate Mortgages

Optional commitments to originate mortgages are obligations to originate mortgage loans at a specified interest rate (fixed or adjustable), where the loan applicant is not obligated to take the loan. Only those optional commitments to originate for which a specified interest rate (a "rate lock") has been promised to the applicant are reported on Schedule CMR.

The OTS Model distinguishes, and values separately, optional commitments to originate the following eight categories of mortgages: (1) 1-month COFI ARMs, (2) 6-month or 1-year COFI ARMs, (3) 6-month or 1-year Treasury ARMs, (4) 3-year or 5-year Treasury ARMs, (5) 5-year or 7-year balloon or 2-step mortgages, (6) 10-year, 15-year or 20-year FRMs, (7) 25-year or 30-year FRMs, and (8) all other mortgages.

Institutions report the following information on Schedule CMR for each position: (1) the dollar amount, (2) the weighted-average coupon, and (3) the dollar amount of loan origination and discount fees that will be collected at origination.

To value commitments to originate mortgages, the OTS Model first estimates the percent of the reported commitments that will actually close and become mortgage loans.

The pipeline is divided into two segments: commitments within a few days of settlement (assumed to be 15 percent of the pipeline) which are treated as being rate-insensitive, and the remaining commitments which are expected to be sensitive to changes in interest rates.

For the rate-insensitive portion of the pipeline, the Model uses an expected closure rate of 93 percent in all rate scenarios. For the rate-sensitive portion, the estimated closure percentage depends on the ratio of the rate on the commitment being valued to the quarter-end 60-day commitment rate on 30-year FRMs. The Model uses a closure rate of about 75 percent for commitments whose rate is less than or equal to the quarter-end, 60-day commitment rate. The closure rate decreases to a minimum of 60 percent for reported commitments whose rate is more than the quarter-end commitment rate.

The next step is to determine the economic value of the loans expected to close. The economic value of the commitments to originate is determined by subtracting the delivery value of a new mortgage (i.e., par) of that type from the economic value of the mortgage underlying the commitment. For example, if the underlying mortgage loan is determined to have a value of 102 percent of face value, the commitment to make the loan would have an economic value equal to 2 percent of face value. The methodology used to value mortgages is discussed in Section B.3. Because of the forward nature of this transaction, the estimated cost of carry is deducted from the coupon of the contract.

b. Firm Commitments to Purchase, Sell, or Originate Mortgages

A firm commitment to purchase or sell mortgages is an agreement to buy or sell a security on a specified date at a specified price. A firm commitment to originate a mortgage is an obligation, binding both the lender and the borrower, to transact a specified mortgage loan at a specified interest rate, at a specified date in the future.

The OTS Model values the mortgages underlying firm commitments on eight categories of mortgages: (1) 1-month COFI ARMs, (2) 6-month or 1-year COFI ARMs, (3) 6-month or 1-year Treasury ARMs, (4) 3-year or 5-year Treasury ARMs, (5) 5-year or 7-year balloon or 2-step mortgages, (6) 10-year, 15-year or 20-year FRMs, (7) 25-year or 30-year FRMs, and (8) all other mortgages. The Model distinguishes commitments to transact whole loans versus MBS, and loans transacted on a "servicing retained" basis versus those transacted on a "servicing released" basis.

Schedule CMR contains the following information on the mortgages underlying each position of firm commitments reported: (1) the category of loan or security, (2) the notional amount, (3) the coupon or pass through rate, and (4) the price to be paid or received.

The OTS Model values the mortgages underlying firm commitments to purchase, sell, or originate mortgages using the option-adjusted approach that is used for valuing single family mortgages. (See Section B.3 for details.) Commitments are valued as the amount of the commitment multiplied by the difference between the price of the pool of the mortgages or the security underlying the commitment and the reported delivery price. Because of the forward nature of the contract, the estimated cost of carry is deducted from the coupon of the forward contract.

c. Optional Commitments to Purchase or Sell Mortgages

An optional commitment to purchase mortgages grants the holder of the option the right, but not the obligation, to buy a specified type and amount of mortgages or mortgage-backed securities, with a specified weighted average coupon (for mortgages) or pass-through rate (for MBSs), at a specified price (called the "strike price"), on a specified date (called the "expiration date"). An optional commitment to sell mortgages grants the holder the right, but not the obligation, to sell a specified type and amount of mortgages or MBSs, with a specified WAC or pass-through rate, at a specified price on a specified date.

The OTS Model values the four types of option positions on eight categories of mortgages that underlie the option. The four option positions are (1) long positions to purchase mortgages, (2) long positions to sell mortgages, (3) short positions to purchase mortgages, and (4) short positions to sell mortgages. (A long position means the thrift owns the option. A short position means the thrift has sold the option.) The following categories of mortgages underlie the options: (1) 1-month COFI ARMs, (2) 6-month or 1-year COFI ARMs, (3) 6-month or 1-year Treasury ARMs, (4) 3-year or 5-year Treasury ARMs, (5) 5-year or 7-year balloon or 2-step mortgages, (6) 10-year, 15-year or 20-year FRMs, (7) 25-year or 30-year FRMs, and (8) all other mortgages.

Schedule CMR contains the following information on each option position reported: (1) the coupon or pass-through rate, (2) the strike price, (3) the notional principal amount, and (4) the expiration date.

Optional commitments on mortgages are valued with the Black 76 option valuation model described in Section B.4. Five inputs will be used to calculate the options value: (1) the forward price of the underlying mortgage in each scenario, calculated by the ots model, (2) the strike price, (3) days to expiration of the option, (4) the risk-free rate, represented by the 3-month treasury rate, and (5) a volatility measure equal to the historical volatility of 30-year mbs. A lower volatility measure is used for optional commitments to buy and sell ARMs.

To calculate the economic values in the shocked rate environments, two adjustments are made to the inputs of the Model. The price of the underlying mortgage corresponding to the shocked environment is used (with the adjustment for the cost of carry), and the risk-free rate of return is adjusted by the amount of the shock.

d. Commitments to Purchase or Sell Non-Mortgage Financial Assets and Liabilities

Commitments to purchase or sell non-mortgage financial assets and liabilities are agreements to purchase or sell financial assets other than mortgages or mortgage-backed securities, and commitments to purchase or sell liabilities, for a specified fixed price, on a specified date.

Institutions report the following information on Schedule CMR for the instruments underlying the commitments: (1) The asset or liability type, (2) the dollar (par) amount, (3) the maturity (if the position consists of core deposits, no information is provided on maturity), (4) the coupon or interest rate paid or received, and (5) the price (as a percentage of par) to be paid or received.

Each commitment is valued by estimating the value of the underlying asset or liability and subtracting the price at which the institution has agreed to buy or sell it. For example, if an institution has agreed to sell certain bonds for 98 percent of par, and the bonds are determined to have a value of 101 percent of par in a given interest rate scenario, the commitment will have an economic value of negative 3 percent of par in that scenario.

Positions in "Other Liabilities" are assumed to consist of commitments to buy or sell certificates of deposit (CDs). (The valuation of CDs and core deposits is discussed in Section 6.)

Positions in "Non-Mortgage Financial Assets" are valued using a static discounted cash flow approach. These positions are assumed to consist of bonds paying semiannual interest payments. The OTS model discounts the cash flows by the rate that would return the price at which the institution is transacting the instrument (i.e., the internal rate-of-return of the instrument). For example, if an institution has agreed to sell certain bonds for 98 percent of par, the model uses that discount rate in the base case that causes the sum of the discounted cash flows of the bond to equal 98 percent of par. This assumption will result in these commitments having a base case value of zero.

In the alternate rate scenarios, the discount rate is altered by the amount of the shock, the economic value of the bond is recalculated and subtracted from the price at which the institution has agreed to transact the asset.

e. Interest-Rate Swaps

i. Fixed-for-Floating Swaps

Fixed-for-floating interest-rate swaps are agreements to exchange a stream of fixed-rate interest payments for a stream of interest payments that float with a specified index of interest rates. The coupon payments are based on a notional principal amount.

The OTS Model values fixed-for-floating swaps with each of the following floating rate indices: one-month, three-month, and six-month LIBOR, three-month, one-year, three-year, five-year, seven-year, and ten-year Treasury, the 11th District Cost of Funds (COFI), and the prime rate.

Schedule CMR contains the following information about each swap position reported: (1) the floating-rate index, (2) the fixed rate, (3) the notional principal amount, (4) the maturity date, and (5) the margin to be added to the floating-rate index, if any.

The economic value of swaps is estimated as the present value of the cash flows received minus the discounted present value of the cash flows paid. All swaps are assumed to be even at initiation (i.e., the values of the pay and receive sides are equal), since no discounts or premiums can be reported on Schedule CMR.

For swaps based on LIBOR and Treasury indices, the projected floating rate equals the corresponding implied forward LIBOR or Treasury rate. The COF index rates are projected using the same equation that is described in Section B.5.b. Both the fixed-rate and floating-rate side cash flows are discounted by the appropriate maturity spot rate corresponding to the floating-rate side.

To determine the swap's economic value in the alternate interest rate environments, the discount rates are adjusted by the amount of the shock, and economic value recalculated.

ii. Basis Swaps

Basis swaps are agreements to exchange one stream of interest payments that float with a given index of rates for a stream that floats with a different index of rates.

The Model values four types of basis swaps: one-month LIBOR-for-COFI, three-month LIBOR-for-COFI, six-month LIBOR-for-COFI, and three-month Treasury-for COFI swaps. (Treasury-for-LIBOR swaps are not reported on Schedule CMR because they are not considered to exhibit significant sensitivity to the interest rate simulations performed by the OTS model.)

The methodology used to value basis swaps is the same as that for fixed-for-floating swaps, except two floating rates are projected.

iii. Swaptions

A swaption is an option to enter into a specified swap agreement on a specified future date. The OTS Model values swaptions on Fixed-For-Floating swaps. Swaptions on basis swaps are not valued by the Model. Schedule CMR collects the following information on swaptions: (1) the floating-rate index, (2) the fixed rate, or strike rate, (3) the notional principal amount, (4) the expiration date of the swaption (the date the swap would begin if the swaption were exercised), (5) the date the swap underlying the swaption matures, and (6) the margin to be added to the floating-rate index, if any.

Swaptions are valued with the Black 76 option valuation model described in Section B.4. Six inputs are used to calculate the option's value; (1) The forward swap rate (estimated as the corresponding implied forward rate), (2) The expiration date of the swap that underlies the swaption, (3) The expiration date of the swaption, (4) The strike price, (5) The risk-free rate, represented by the 3-month Treasury rate, and (6) The volatility, assumed to be an average volatility of short-term rates.

To calculate the economic value in the alternate rate environments, the corresponding Treasury or LIBOR curves are adjusted by the amount of the rate shock, which alters the forward swap rate, and the risk-free rate of return is adjusted by the amount of the shock.

iv. Mortgage Swaps

Mortgage swaps are agreements to exchange a stream of fixed-rate mortgage principal and interest payments for a stream of interest payments that float with a market index of interest rates. The payments are based on a specified notional principal amount which is reduced monthly as a function of the actual amortization and prepayment experience of a specified pool of MBSs.

Schedule CMR distinguishes mortgage swaps with one-month, three-month, and six-month LIBOR floating rate indices. Schedule CMR collects the following information on mortgage swap positions reported: (1) the floating-rate index, (2) the mortgage coupon, (3) the notional principal amount, (4) the maturity date of the pool of mortgages underlying the swap, and (5) the margin to be added to the floating-rate index, if any.

Mortgage swap agreements are generally constructed to mimic an investment in the underlying mortgage funded by floating-rate borrowings. The notional amount is assumed to amortize based on a 30-year schedule and prepay at the same rate as fixed-rate 30-year mortgage mortgages.

v. Amortizing Swaps

An amortizing swap is a swap on which the notional principal amount amortizes over time. Any of the types of swaps reported on Schedule CMR (e.g., basis swaps, fixed-for-floating swaps) can be designated as amortizing swaps.

Data on the swap's amortization schedule is not collected on Schedule CMR. Therefore, the OTS model assumes the swap (other than mortgage swaps) amortizes in a "straight line" manner over its life.

f. Interest Rate Caps and Floors

An interest rate cap is a contract that compensates the holder of the contract as a specified interest rate index rises above a preset rate (called the cap rate or strike rate). An interest rate floor is a contract that compensates the holder as a specified interest rate falls below a preset rate (called the floor rate or strike rate). The party that purchases the cap or floor is said to be "long" the cap or floor, while the party that sells the cap or floor is said to be "short" the cap or floor. Caps and floors are generally entered into for an extended period of time.

Schedule CMR collects the following information on each cap or floor positions: (1) the interest rate index underlying cap or floor, (2) the notional amount, (3) the date the cap or floor begins (if the contract contains a forward provision), (4) the maturity date, and (5) the strike rate.

Caps and floors are valued with the derivative of the Black-Scholes option valuation model that was described in Section B.4. Each cap or floor is valued as a series of options represented by the contract. Five inputs are used to calculate each options' value: (1) The forward rate (estimated as the corresponding implied forward rate), (2) The strike rate, (3) The expiration date, (4) The risk-free rate, represented by the 3-month Treasury rate, and (5) the volatility, estimated as the implied volatility of the nearby Eurodollar Futures contract for near-term options in the series, adjusting to a long-term estimate of volatility for LIBOR for later options in the series.

To calculate the economic value in the alternate interest environments. The Treasury or LIBOR curves are adjusted by the amount of the rate shock, which alters the implied forward rates used to value each option, and the risk-free rate of return is adjusted by the amount of the shock.

g. Futures

The OTS model values long and short positions in the following futures contracts: Treasury bond, 2-year, 5-year, and 10-year Treasury notes, 1-month LIBOR, 3-month Eurodollar, 3-month Treasury bill, 30-day interest rate, 3-year and 5-year swaps, and 30-year mortgage-backed futures. On Schedule CMR, institutions report the contract code that represent the types of futures contract they hold, and the notional principal amounts of their positions.

Futures contracts are "marked-to-market" daily and cash is paid or received so that the market value of the position is zero at the end of each day. As a result, the economic value of futures in the base case is zero.

The estimated economic value of a futures position in the alternate rate scenarios is determined by the difference between the estimated futures price in the alternate rate environment and the futures price in the base case, multiplied by the size of the position. For Treasury note or bond futures, the OTS Model estimates the futures price of the cheapest-to-deliver (CTD) security in each alternate rate environment.

To value the 1-month LIBOR, 3-month Eurodollar, 3-month Treasury bill, and 30-day interest rate futures, the base case yield is adjusted by the amount of the interest rate shock. (Treasury bill futures are adjusted by the amount that a discount yield would shift, given the shock to the zero-coupon Treasury curve.) Futures contracts have a specific dollar value per yield point, so the market value of these contracts in each scenario equals the product of this specific value and the change in the yield caused by the rate shock.

The OTS Model values 3-year and 5-year swaps futures in the same manner as fixed-for-floating swaps (refer to the Swaps section for discussion).

h. Options on Futures

A call option on a futures contract gives the holder the right, but not the obligation, to acquire a long position in a futures contract at a specified price (called the "strike price") on a specified date (called the "expiration date"). A put option on a futures contract gives the holder the right, but not the obligation, to acquire a short position in a futures contract at a specified price and on a specified date.

The OTS Model values the four types of options positions on eight different futures contracts. The four option positions are (1) long call, (2) long put, (3) short call, and (4) short put. (A long position indicates the thrift has bought the option. A short position indicates the thrift has sold the option.) The eight futures contracts underlying the options are (1) 30-day interest rate futures, (2) 3-month Treasury bill futures, (3) 2-year Treasury note futures, (4) 5-year Treasury note futures, (5) 10-year Treasury note futures, (6) Treasury bond futures, (7) 1-month LIBOR futures, and (8) Eurodollar futures.

Schedule CMR contains the following information on each option position reported: (1) the notional principal amount, (2) the strike price, and (3) the expiration date of the option.

The OTS Model values options on futures with the derivative of the Black-Scholes option valuation model that was described in the section titled "Basic Valuation Methodologies." Five inputs will be used to calculate the option's value: (1) The price of the underlying Futures contract (2) The strike price, (3) The expiration date, (4) The risk-free rate, represented by the 3-month Treasury rate, and (5) The volatility, estimated as the implied volatility of the option contract.

i. Construction LIP

Construction loans in process (LIP) are construction loans on which the institution has closed but has not yet disbursed the entire proceeds. Only that LIP for which a fixed interest rate has been specified are reported on Schedule CMR. Floating-rate agreements or agreements wherein the rate is determined at the time the funds are disbursed are not reported on Schedule CMR.

Schedule CMR contains the following information on LIP: (1) the amount of undisbursed funds, (2) the term until the expected receipt of principal on the loans, and (3) the interest rate.

The economic value of the commitment is determined by estimating the value of the underlying loan, and subtracting par. For example, if the underlying loan has a value of 102 percent of par, the commitment to make the loan would have a value equal to 2 percent of par. The underlying loan is valued as a fixed-rate construction loan (see Section 5.E). In the alternate interest rate scenarios, the discount rate is adjusted by the amount of the shock, the value of the underlying loan is recalculated, and par subtracted.

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October 5, 1993

Honorable Susan M. Phillips
Member
Board of Governors of the
Federal Reserve System
Washington, D.C. 20552

Dear Governor Phillips:

On October 28, 1993 at 10:00 a.m., the Committee on Banking, Finance and Urban Affairs will hold a hearing to examine the safety and soundness issues associated with bank derivative activities. You are respectfully invited to testify at the hearing.

So that the Committee may better understand the various safety and soundness issues involving bank derivatives activities, please work with the Office of the Comptroller of the Currency (OCC), the Federal Deposit Insurance Corporation (FDIC), and the Office of Thrift Supervision (OTS), to provide written answers to the following questions by the close of business October 26, 1993:

A. Regulation and Supervision

1. Please define and explain the systemic risks associated with bank holding company derivative activities?
2. Please define and explain the risks associated with individual bank holding company involvement in derivatives activities.
3. What steps has your agency taken to ensure the safety and soundness of bank holding companies involved in derivative product activities?
4. Do current international and domestic capital standards adequately reflect the risks associated with derivative activities?
5. Please summarize your agency's strategy for supervising bank holding company derivative product activities?

6. What steps has the Federal Reserve taken to ensure its examiners are properly trained to supervise derivative activities? How many examiners are trained to supervise bank holding company derivative activities? Is there a separate "derivatives" examiner corps at the Federal Reserve?
7. To what extent does our multi-layered bank regulatory system complicate efforts to supervise derivatives activities at bank holding companies? Would a single regulatory agency improve oversight and supervision of bank derivatives activities? Please respond to Comptroller Ludwig's call for the creation of an interagency task force on derivatives.
8. How does regulation and supervision of derivatives activities differ between banks and nonbanks?
9. Does your agency support additional financial reporting requirements (e.g. credit exposure, replacement cost exposure, etc.) related to bank derivative product activities?
10. Does your agency support changing U.S. and international accounting standards to reflect more standardized reporting of derivatives information contained in bank holding company financial statements?
11. Are bank holding company risk management systems adequate to address the risks of derivatives activities? Please differentiate between the large, well established dealers versus new entrants to the derivatives market. Is your agency developing standardized guidelines for bank holding company risk management systems?
12. Does your agency require senior managers and board members to pass competency tests to ensure they are experienced in managing the risks associated with derivative activities?
13. Should bank holding companies have at least two directors that have direct experience in managing the risks associated with derivatives activities?
14. Under what scenario(s) could an individual bank holding company fail as a result of derivatives-related activities? What catastrophes in the markets could cause a derivatives-related bank failure? Are banks required to formulate/simulate plans for such catastrophes?

B. Bank Holding Company Derivative Activity

1. What percentage of derivatives products are provided by bank holding companies? (i.e. what is bank holding company market share)?
2. Please provide a list of bank holding companies that offer derivatives products. Break the information down by type of derivative product, and identify of the holding companies that are considered dealers.
3. Are bank holding company derivatives activities profitable? How important is derivatives-related profit to overall bank holding profitability?

C. Concentration

1. What are the pro's and con's related to the concentration of derivatives activities in a handful of large money center bank holding companies?
2. For each the ten largest bank holding company derivatives dealers, indicate the credit exposure related to derivatives as a percentage of the bank holding company capital.
3. Does your agency have defined criteria that must be met before a bank holding company can offer derivative products? Do bank holding companies need to notify your agency prior to becoming a dealer in derivative products?

D. Speculation

1. How does your agency define and identify speculation in derivative products? Are there any rules or regulations involving bank holding company speculation activities using derivative products?
2. What percentage of bank holding company derivative transactions are related to a) market making functions? b) speculation? c) risk arbitrage?
3. To what extent do bank holding companies enter into derivatives contracts to hedge or square positions on their own balance sheets?
4. What percentage of bank holding company derivative transactions are entered into with a) other market makers? b) financial versus nonfinancial end-users? c) existing bank customers? d) for the bank's proprietary trading purposes?

E. Separately Capitalized Subsidiaries

1. What are the pro's and con's of requiring a bank holding company to establish a separately capitalized subsidiary to engage in derivative activities?
2. In providing derivative products, to what extent does deposit insurance provide bank holding companies with an advantage or disadvantage over nonbank competitors?

Please provide answers to the following questions by the close of business, November 26, 1993.

A. Separately Capitalized Subsidiaries

1. Does the Federal Reserve currently encourage or discourage bank holding companies from setting up separately capitalized subsidiaries to engage in derivatives-related activities?

Over the past several years, how many bank holding companies applied to establish separately capitalized subsidiaries to engage in derivatives-related activities? Has the Federal Reserve acted on those applications? Please explain the reasons the Federal Reserve has approved or denied each application? Has the Federal Reserve encouraged bank holding companies to withdraw such applications?

2. How does a bank holding company's credit rating affect its ability to provide derivatives products to its customers? How does a bank holding company's credit rating affect its ability to perform market making functions in derivatives products?

B. Over-the-Counter (OTC) Versus Organized Exchange

1. What percentage of the bank holding company derivative transactions are arranged over-the-counter (OTC) as opposed to arranged through an organized exchange? What percentage of bank holding company OTC transactions are between market-makers versus between market-makers and their customers?
2. What are the differences in the markets, and what special supervisory issues arise as a result of the differences in the markets?
3. To what extent does your agency coordinate/cooperate with exchange officials associated with bank holding company exchange related activities?
4. To what extent does your agency coordinate/cooperate with the Commodities Futures Trading Commission (CFTC) and the Securities Exchange Commission (SEC) related to bank holding company derivative activities?
5. Please identify exchange-related clearing organizations, their function and bank holding company membership in clearing organizations? Who performs the exchange or clearing organization function in the OTC market?
6. How do the parties to a derivatives contract ensure contract performance in the OTC market?

C. Trusts

1. How many derivatives products (quantity and notional value) do dealer bank holding company's sell to their existing discretionary trust customers? nondiscretionary trust customers? What is the income from those transactions?
2. Are there any rules governing the sale of derivative products to a bank's discretionary or nondiscretionary trust customers?
3. In your opinion, is it a conflict of interest for a bank to sell derivatives products to its discretionary or nondiscretionary trust customers?

D. Foreign Banks

1. To what extent do foreign banks act as a dealer in derivatives products in the U.S.?

2. Do agencies and branches of foreign banks act as dealer of derivative products?
3. How important are foreign banks to the derivative products market in the U.S.?
4. Is there adequate coordination with foreign bank regulators in the derivatives area?

E. Trading Accounts and Chinese Walls

1. For the top ten bank holding company derivatives dealers for the past five years, please provide trading assets and trading income?
2. For those same bank holding companies over the same period of time, what percentage of assets are trading assets and what percentage of total income is derived from trading?
3. To what extent are there legal and physical barriers erected between bank holding company proprietary trading activities and a bank's customer-related derivatives activities?
4. In trading for their own proprietary accounts, to what extent do dealer bank holding companies use information gleaned from customer-related derivatives activities?

F. Taxes

1. Please comment on the feasibility and implications of levying a tax on speculation-related derivative transactions.

Please feel free to address any other issues that will shed light on your agencies efforts to ensure that bank holding company derivative-related activities are conducted in a safe and sound manner.

You will be given 5 minutes to summarize your written remarks. Banking Committee rules require that 200 copies of your written testimony be delivered to Room 2129, Rayburn House Office Building, no later than the close of business October 26, 1993.

Thank you for your cooperation. The Committee looks forward to your testimony. With best wishes.

Sincerely,

Henry B. Gonzalez
Chairman

HBG:dk/mc

73-436 O - 94 - 9

For release on delivery
10:00 a.m., EDT
October 28, 1993

Statement by

Susan M. Phillips

Member, Board of Governors of the Federal Reserve System

before the

Committee on Banking, Finance and Urban Affairs

U.S. House of Representatives

October 28, 1993

Thank you for this opportunity to present the views of the Federal Reserve Board on safety and soundness issues associated with derivatives activities of banking organizations. The Board believes that these are important issues and is devoting substantial resources to improving understanding of derivatives and to developing appropriate public policies for these instruments. Today I shall begin by sharing with you our perspective on the public benefits and public policy concerns associated with use of derivatives by banks and by others. Then I shall summarize the Board's strategy for addressing those concerns and discuss the specific policy actions that we have taken and are planning to take in order to implement that strategy.

Public Benefits and Public Policy Concerns

A derivative is a financial contract whose value is derived from the values of one or more underlying assets or reference rates or indexes of asset values. Derivatives include standardized contracts that are traded on futures and securities exchanges and also customized, privately negotiated contracts known as over-the-counter (OTC) derivatives. Both types of derivatives have been in existence for hundreds of years. In the United States, commodity futures exchanges date to the mid-nineteenth century, and foreign exchange forward contracts have been offered by some U.S. banks since early this century.

Since around 1980, however, the scale, diversity, and complexity of derivatives activities have increased greatly. On the futures exchanges, interest rate derivatives, which were first introduced in the mid-1970s, today account for more than half of total activity. OTC interest rate derivatives did not emerge until the early 1980s, but today these instruments are available and used actively in all of the major financial centers in North America,

Europe, and Asia. Foreign exchange contracts also are actively traded over the counter and on exchanges in all the major financial centers, and commodity-linked and equity-linked derivatives are now widely available.

The Board believes that the development of new derivative products and the overall expansion of derivatives activities have provided important public benefits. The primary economic function of derivatives is to transfer market risk, that is, the risk of an adverse change in the price of an asset or portfolio of assets. The importance of this function has increased as competitive pressures have intensified in many economic sectors and interest rates, exchange rates, and other asset prices have tended to be quite volatile. In this environment, many financial and nonfinancial businesses, federally sponsored agencies, and state and local governments have concluded that active management of their exposures to financial market risks is essential. They recognize that such risks, if left unmanaged, can jeopardize their ability to perform successfully their primary economic functions. Because derivatives, especially customized OTC derivatives, allow financial market risks to be adjusted more precisely and at lower cost than is possible with other financial instruments, many entities have come to rely on such contracts to achieve their risk management objectives.

At the same time, the Board recognizes that derivatives are complex instruments and that, if not clearly understood and properly managed, their use can threaten the safety and soundness of banks and other users. To date, few institutions have suffered significant losses from derivatives activities, and no commercial bank has failed as a result of such activities. But the potential clearly exists for an individual bank or other institution to misuse derivatives in ways that create risk exposures that could materially weaken its financial

condition, either because of ignorance or because of an imprudent attitude toward risk.

The Board also is concerned that derivatives activities could have implications for the stability of the financial system. Whether derivatives have increased or decreased systemic risk still is a subject of ongoing review and analysis. Derivatives have fostered greater awareness and understanding of risks and enhanced methods of risk management. It is clear, however, that derivatives activities have become a significant factor in the overall risk profiles of some banks and other financial intermediaries. While still relatively few in number, these institutions are among the largest and most active in the financial and banking markets. If one of them failed to manage its derivatives activities prudently, its financial condition could be weakened and concern about its financial health could jeopardize the smooth operation of financial markets. More generally, derivatives have been a major factor in tightening linkages among markets and potentially altering the transmission of economic and financial shocks. If a firm that was very active in these markets came under extreme financial stress, regardless of the source of its difficulties, the unwinding of its outstanding derivatives positions and related positions in other financial markets could pose significant challenges both to the firm and to regulatory authorities seeking to contain the effects of its difficulties.

It is also clear that weaknesses in the financial infrastructure for derivatives activities are a potential source of systemic problems. In fact, the largest single source of losses from derivatives activities to date resulted from a court decision that invalidated derivatives contracts with certain local authorities in the United Kingdom. In the United States, prior to the passage of the Futures Trading Practices Act of 1992 and subsequent regulatory action

by the Commodity Futures Trading Commission, the exchange-trading restriction of the Commodity Exchange Act had raised serious concerns about the legal enforceability of many OTC derivatives contracts. Of remaining infrastructure problems, perhaps the most serious relate to the legal enforceability of so-called netting agreements for derivatives contracts, which still is questionable in several important foreign jurisdictions.

A Strategy for Addressing Public Policy Concerns

The strategy that the Federal Reserve has pursued to address concerns about the risks associated with derivatives activities has three basic elements. First, the Board has used its banking supervisory authority to attempt to ensure that the risks associated with the derivatives activities of the institutions it regulates are managed prudently and do not pose a threat to the deposit insurance fund. Along with other banking supervisors in the United States and abroad, the Federal Reserve has worked to incorporate such risks into regulatory minimum capital requirements. At the same time, however, the Board's policies have emphasized the responsibility of a bank's senior management for ensuring that risks of the institution's derivatives activities are effectively controlled and are limited to levels that do not pose a threat of seriously impairing its capital. This emphasis reflects the Board's belief that regulation cannot substitute for effective risk management, especially in the case of activities as complex and diverse as derivatives activities.

Second, the Federal Reserve has strongly encouraged private sector initiatives to foster sound risk management of derivatives activities. Because banks are not the only large-scale users of derivatives, concerns about risks to individual institutions and to the financial system must extend to other entities, some of which are

not subject to prudential regulation by banking supervisors or by other authorities. Private sector initiatives offer the promise of strengthening risk management practices of both regulated and unregulated entities in the United States and abroad.

Third, the Board has worked with users of derivatives, other regulators in the United States and abroad, and legislators to strengthen the financial infrastructure for derivatives activities. To date, these efforts have focused on legal enforceability issues. Further efforts are needed, both on legal issues and on other issues, notably accounting and financial reporting issues.

Bank Regulatory and Supervisory Policies

Before discussing the specific regulations and supervisory policies and procedures that the Federal Reserve has implemented to address the risks of bank derivatives activities, several points about the extent and nature of such activities should be noted. Most important, very few banking organizations make use of derivatives. As of midyear, only 13 percent of U.S. bank holding companies and just 8 percent of state-chartered member banks reported any positions in either exchange-traded or OTC derivative contracts.

Moreover, for the vast majority even of these banking organizations, exposures related to derivatives activities do not appear significant relative to their exposures from their other activities or relative to their capital. In fact, most of these institutions appear to use derivatives solely or at least primarily for hedging, that is, to reduce the interest rate risks and other market risks associated with their traditional portfolios of loans, securities, and deposits. The use of derivatives, especially OTC derivatives, by these institutions does create credit exposures to counterparties. Analysis of reported data indicates, however, that

these credit exposures tend to be quite small relative to credit exposures from traditional activities.

By contrast, for at most a dozen or so very large banks and bank holding companies, nearly all of which have their headquarters in New York or Chicago, derivatives activities have become a significant component of their overall risk profile. Like the other banks, these banks use derivatives to hedge market risks associated with more traditional activities, but by far the largest share of their activity relates to their role as "dealers" in OTC derivatives. These banks compete with other large financial institutions in the United States and abroad to meet demands from a wide range of end-users for customized derivatives contracts to achieve specific risk management objectives. They also use derivatives (both exchange-traded and OTC) as vehicles for proprietary trading, that is, trading designed to profit from movements in absolute or relative levels of interest rates, foreign exchange rates, or other asset prices. Internal bank data gathered in the examination process suggest that the derivatives activities of these dealer banks have been quite profitable and no serious losses have been incurred. Nonetheless, the magnitude and complexity of the risks these banks manage quite naturally have been a focus of concern for the Federal Reserve and other banking supervisors.

A key element of the Board's efforts to strengthen regulatory and supervisory policies relating to derivatives activities has been the incorporation of measures of credit risks, market risks, and interest rate risks associated with these activities into risk-based capital requirements. Risk-based capital requirements for credit exposures on OTC derivative contracts were part of the original Basle Accord that was published in 1989. These requirements provide a methodology for translating market values and notional amounts of

derivatives contracts into amounts that are comparable to credit exposures on balance sheet assets. It is important to note that these "credit equivalent amounts," which include both the current exposure to loss from default of a counterparty and an estimate of potential future increases in exposure, are a very small fraction of the notional values. Nonetheless, for a few of the largest U.S. bank holding companies these credit equivalent amounts equal as much as 20 percent to 35 percent of their balance sheet assets.

At the end of April, the Board made available for public comment proposals by the Basle Supervisors Committee to revise the Basle Accord. The revisions would recognize reductions in credit risk from use of legally enforceable netting arrangements for derivatives contracts and would incorporate measures of market risks on foreign exchange and traded debt and equity positions, including derivatives positions. Implementation of the netting proposal would provide incentives for wider use of netting agreements in legal jurisdictions in which concerns about enforceability have been addressed; it also would encourage efforts to reduce legal uncertainty in the remaining jurisdictions, through legislation if necessary. With regard to market risk, the treatment of derivatives is an integral component of the proposal. Market risk would be assessed on a portfolio basis, taking into account the cash flows associated with both derivatives and the underlying instruments.

The incorporation of risks associated with derivatives in risk-based capital requirements has required banking regulators to set out rather complex and detailed rules. Nonetheless, the rules arguably do not fully capture the complexity and diversity of the risks involved. In particular, the proposed treatment of market risks on options positions is crude and may need to be revised in light of public comments and further analysis. More elaborate rules could be

developed, but the added complexity would be burdensome to banks and still might not fully capture the risks of complex portfolios. These difficulties underscore a point I made earlier--regulation simply cannot substitute for effective risk management, especially management of such complex activities. One potential solution to these difficulties is to allow banks to use their own internal models to compute capital requirements for market risk, subject to examiner review of the models and in accordance with parameters set by regulators. Indeed, the Basle supervisors have requested comment on the merits of such an approach to assessing market risks on complex options portfolios and on foreign exchange positions. Likewise, the Federal Reserve and other U.S. bank regulators have proposed the use of internal models, subject to examiner review, as a means of determining capital requirements for interest rate risk.

The on-site examination and evaluation of internal risk management models, systems, and controls already are the most important elements of our supervision and regulation of derivatives activities. Examiners assess the risk management systems and internal controls in the banking organization's core trading and derivatives activities and devote special attention to new products and new approaches to risk management and control. Accordingly, the Federal Reserve has made the continuous updating and strengthening of policies and procedures for on-site examination of derivatives activities a top priority. These efforts have built on our many years of experience -- supervising foreign exchange derivatives and on experience with supervising merchant bank subsidiaries in London, which were among the first entities to begin actively trading OTC interest rate derivatives in the mid-1980s. In fact, our first attempt to formalize examination objectives and procedures for derivatives activities was contained in

a Merchant and Investment Bank Examination Manual that was field-tested in 1987 and published in 1988.

Just recently, Federal Reserve staff, including examiners from the Federal Reserve Bank of New York who have considerable experience with bank derivatives activities, have completed an extensive effort to consolidate and enhance examination procedures for derivatives activities and trading activities generally. The result is a new Trading Activities Examination Manual that provides examiners with procedures for evaluating a firm's organizational structure, front-office and back-office operations and systems, and its approaches to measuring and managing market, credit, and liquidity risks associated with derivatives. Examiners in each of the Reserve Banks have begun field-testing this new manual. When the testing is complete, the Board will review the proposed manual and make revisions where necessary.

Of course, examiners need to be trained to make effective use of these new materials. As with other banking activities, examiner expertise in derivatives activities is being developed through an apprenticeship program that combines various types of formal education programs with on-the-job training under the supervision of senior examiners. The Federal Reserve and the other bank regulatory agencies have been working for some time to enhance the coverage of derivatives activities in the core examination curriculum and have offered a variety of specialized courses, conferences and seminars on derivatives issues. The Federal Reserve also is making special efforts to ensure a sharing of expertise in examining derivatives activities between Federal Reserve Districts where this activity is widespread and those where it is just developing.

Looking ahead, the Board believes that accounting and financial reporting standards for bank derivatives activities will

require further attention from U.S. and foreign regulators. The accounting profession in the United States has not yet developed consistent accounting principles for derivatives activities, and there is a diversity of accounting practice among major U.S. banks. With respect to financial reporting of derivatives activities, U.S. banks already report more information than most foreign banks have been required or have chosen to divulge. Nonetheless, expanded reporting requirements may be appropriate for U.S. banks whose derivatives activities are a significant element in their overall risk profile and profitability. The Board believes that the Interagency Task Force on Derivatives that recently has been formed by banking regulators should focus on assisting other existing interagency groups in resolving these accounting and reporting issues.

Encouragement and Support for Private-Sector Initiatives

The Board believes that concerns about risks to individual institutions and systemic risks cannot be fully addressed unless actions by regulators are complemented by private efforts to promote sound risk management. Users of derivatives are a broad and diverse group. Of the leading derivatives dealers, only a handful are U.S. banking organizations. Other leading dealers in these highly competitive markets include some U.S. securities firms and insurance companies and many of the leading banks and securities firms in Canada, France, Germany, Japan, Switzerland, the United Kingdom, and other countries. Major end-users include a variety of regulated and unregulated entities in the United States and many other countries.

Accordingly, the Board has encouraged and supported private-sector initiatives to address risks in derivatives activities. In particular, the Board believes the Global Derivatives Study that was published recently by the Group of Thirty holds considerable promise

for strengthening the risk management practices of a wide range of derivatives dealers and end-users. The study is a complete and lucid source of information on the nature of derivatives activities and the types of risks that such activities entail. Potentially an even more important contribution of the study is the practical guidance it provides on risk management.

This potential may not be realized, however, unless concerted efforts are made to ensure implementation of the recommended practices. A survey conducted as part of the study revealed that significant numbers of dealers and end-users have not yet implemented the recommended practices. Moreover, implementation of some of the recommendations is not straightforward and may be quite costly. Partly in response to concerns that Board members and other regulators expressed about prospects for implementation, the International Swaps and Derivatives Association (ISDA) recently announced a set of new initiatives to foster adoption of the report's recommendations by derivatives users. These include a follow-up survey of practices, conferences and workshops, and special efforts to reach end-users through their trade associations. The Board believes that further efforts of this kind, whether by the Group of Thirty, ISDA, or other groups, are highly desirable.

Efforts to Strengthen the Infrastructure for Derivatives Activities

The Board has worked with central banks in other countries to develop a clearer understanding of the implications of derivatives activities for systemic risk. These efforts have culminated in publication by the Bank for International Settlements of several reports. In particular, a working group chaired by a Board staff member prepared a Report on Recent Developments in International Interbank Relations that provides perhaps the most complete discussion

of the systemic risk issues. This report emphasized not only the importance of sound risk management practices at individual institutions, but also the need to strengthen the legal and institutional infrastructure for derivatives activities.

As I have noted, in the United States, legislators, regulatory authorities, and derivatives users already have taken a series of steps to ensure the legal enforceability of netting agreements for derivatives. The Board believes that the enforceability of such contracts is critical from a systemic risk perspective. If a counterparty measures its credit exposure on a net basis but the netting agreement is not enforceable, the true exposure is the gross exposure. The counterparty thus could face losses and liquidity pressures far larger than expected and, perhaps, larger than could readily be absorbed.

The latest effort to address enforceability concerns was a far-reaching provision of the FDIC Improvement Act. This provision validated under U.S. law all netting contracts between and among depository institutions, securities brokers or dealers, and futures commission merchants. Furthermore, it authorized the Federal Reserve Board to broaden the coverage to other financial institutions if it determined that doing so were appropriate to promote market efficiency or to reduce systemic risk. In early May, the Board issued a proposed rule that would broaden the definition of financial institution to include all legal entities that are large-scale dealers in the OTC derivatives markets. Implementation of this proposal would eliminate uncertainty about the legal enforceability of netting agreements between certain affiliates of securities firms and insurance companies that are active dealers in the OTC derivatives market and banks and other entities that already meet the statutory definition of financial

institution. The Board is currently considering public comments on the proposal and plans to take final action early next year.

The Federal Reserve also has worked with the Commodity Futures Trading Commission and the Congress to eliminate the threat that OTC derivatives contracts could be deemed unenforceable off-exchange futures contracts, an event that, were it to have occurred, clearly could have caused systemic problems. The Futures Trading Practices Act of 1992 provided the CFTC with explicit authority to exempt OTC derivatives from most provisions of the Commodity Exchange Act, including the exchange-trading restriction that had posed the threat. When the CFTC moved promptly to utilize the new authority to eliminate the threat to OTC derivatives, the Board supported its action.

As I indicated in discussing bank supervisory issues, one area of the infrastructure that needs immediate attention is the development of consistent accounting and financial reporting standards for derivatives. The Federal Reserve and other banking regulatory agencies plan to press ahead in developing appropriate standards for U.S. banking organizations. But, clearly it would be preferable for the Financial Accounting Standards Board to develop and implement standards that would apply to all U.S. firms. The Working Paper of the Accounting and Reporting Subcommittee that was included in the Group of Thirty's Global Derivatives Study discussed some promising approaches to these issues that deserve further consideration by banking regulators and by FASB. FASB and the banking regulators have been discussing these issues but need to intensify discussions with each other and with dealers and end-users of derivatives. Ultimately, it will be important to work toward international harmonization of accounting and reporting standards for both regulated and unregulated entities.

Conclusion

In conclusion, the Board believes that it has developed a sound and appropriate strategy for addressing public policy concerns about potential risks from derivatives activities. The Federal Reserve and other banking supervisors have made significant progress in strengthening policies relating to bank derivatives activities and have the authority necessary to address such issues as accounting and financial reporting. With respect to other users of derivatives, at this time the Board believes that official encouragement of private-sector initiatives is the most effective way of addressing public policy concerns about risks to individual institutions and systemic risks. Nonetheless, the Board continues to analyze these issues and plans to monitor carefully the progress of the private-sector initiatives and to consider carefully the results of the study on OTC derivatives regulation that the CFTC just recently completed. At the same time, regulatory and supervisory programs related to derivatives activities of banking institutions will be reviewed frequently as these instruments evolve and as banks' use of them develops further.

Responses to Questions on Financial Derivatives

Posed by

Congressman Henry B. Gonzalez
Chairman, Committee on Banking, Finance, and Urban Affairs
U.S. House of Representatives

October 26, 1993

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A. REGULATION AND SUPERVISION

QUESTION A)1)

Please define and explain the systemic risks associated with bank holding company derivative activities.

Systemic risk is the risk that a disruption in the performance of any participant or group of participants in financial markets could cause widespread difficulties at other firms and ultimately throughout the financial system as a whole. Such disruptions can arise from credit, market, settlement, operating, liquidity and legal risks which are the traditional risks that banking organizations have faced daily in their lending, treasury and trading functions for years.

Considerable thought has been given, especially among central banks, to the question of whether -- and in what ways -- derivatives activities significantly change the level of systemic risk in financial markets. The greater awareness and understanding of risk and the enhanced methods of managing risks that have accompanied the growth of derivative activities, probably have reduced the likelihood of systemic problems, and will continue to do so over time as industry and supervisory practices advance.

While the various elements of risk associated with derivative activities are not unique, the complexity of some derivative instruments -- especially given the interrelationships among the various elements -- tends to make the problem of risk management more difficult. To assess the impact on their total portfolios of potential changes in market prices, financial institutions must monitor and value their positions in a wide range of markets, and must assess liquidity in each of those markets.

The complexity of derivatives activities -- coupled with the urging of supervisors -- has induced financial institutions to upgrade significantly their risk management

capabilities and to seek ways to reduce risk. For example, financial institutions, whose senior managers have become more sensitive to the risks they are incurring, have devoted substantial resources to the development of more sophisticated risk management tools and have made increasing use of netting to reduce their credit exposures. These efforts, and others, have had favorable spill-over effects on institutions' abilities to manage their total portfolios, not just their derivatives activities.

Partly, but not exclusively, as a result of derivatives activities, the linkages among financial markets and financial institutions -- especially cross-border linkages -- have become stronger. Disturbances can spread more quickly throughout the international financial system. As a consequence of these increased linkages, if a systemic problem were to arise, central banks need to be able to respond quickly, with great technical sophistication and coordination. The central bank community recognizes the significance of these linkages and has been working in a concerted manner to deal with them.

QUESTION A)2)

Please define and explain the risks associated with individual bank holding company involvement in derivatives activities.

In many ways the risks associated with derivative instruments are the same types of risks banking institutions face daily in their lending, treasury and trading functions. These include counterparty credit risk, market risk, settlement risk, operating risk, market liquidity risk and legal risk. Derivatives merely repackage these risks in different combinations that, in comparison to traditional bank instruments or products, can be quite complex. As a result, some derivatives require different risk measurement methodologies and require stronger risk control and management systems.

Counterparty Credit Risk. Counterparty credit risk is the risk of loss in the event the counterparty to a transaction defaults, or otherwise fails to perform under the terms of a contract. Once the amount of credit exposure is estimated, it can be evaluated and controlled through traditional methods of assessing the credit-worthiness of a counterparty.

For derivative transactions involving firm commitments (forwards, forward rate agreements ("FRAs"), futures and swaps), credit exposure to the default of a counterparty amounts to the positive value or current replacement cost of the contract. Replacement cost differs from the notional principal of a contract, which is often merely the hypothetical basis on which payments to be exchanged are calculated rather than an amount actually to be exchanged. The replacement cost or positive market value of a contract is derived from differences between the initial contract terms and the current market terms for an identical contract. The market value is generally determined by calculating the present value of the

additional expected cash flows that arise from the difference between the initial contract terms and the current market terms of an identical contract.

Since most derivatives involving firm commitments are entered into at no cost (other than possibly a nominal fee) to either party, at inception they have zero value and therefore no credit exposure. At that point, the only risk is the potential that subsequent changes in the market price of the instrument, index or interest rate underlying the contract will create a positive contract value that might be forfeited if the counterparty defaulted. If market prices move to create a positive contract value, the contract has the current credit risk exposure of its replacement cost as well as the potential future credit risk that can arise from subsequent changes in market prices.

The credit exposure of derivatives traded on exchanges (futures and options on futures) is fundamentally different than derivatives exchanged over-the-counter (forwards, futures, FRAs, swaps, swaptions, and some options) because the exchange's clearing organization typically acts as the counterparty. To back up its guarantee of contract performance, the clearing organization generally protects itself through margining requirements based on daily marking-to-market of contract values, capitalization requirements for clearing members, and loss sharing rules.

In contrast, the bilateral nature of OTC derivative transactions, along with their generally longer performance period (owing to the absence of the standardized margin requirements and daily settlements) can lead to significant counterparty credit exposure. The presence of credit risk effectively limits participation in these highly competitive markets to financially strong institutions. Even among them, market discipline serves to limit both risk

taking and active involvement by institutions that show signs of financial problems. Counterparties routinely reduce exposures to weakening institutions by reducing the volume and maturity of transactions they conduct with those institutions, and by requiring margin or collateral to mitigate credit risk.

Market Risk. The market risk of a derivative, like other financial instruments, is the risk of a decline in the value of the contract arising from adverse movements in the price, index, or rate of the instrument underlying the contract. This market risk depends both on the potential magnitude of change in the value of the underlying asset (often termed its "volatility") and on the relationship between changes in the value of the underlying asset and the value of the derivative. The latter factor, the "price sensitivity" of the derivative, can vary considerably depending on the terms of the derivatives contract. For options, in particular, the price sensitivity may vary considerably as the price of the underlying asset changes.

Settlement Risk. Settlement risk is the exposure to loss arising when an institution either pays out funds or delivers assets before receiving assets or payment from its counterparty. As such, settlement risk can assume several forms. In foreign exchange markets, for example, the time differences between normal payment hours in different countries can create time gaps between offsetting payments from a single transaction, exposing institutions to settlement risk during that period (i.e., Herstatt risk). In another form, settlement risk can occur when delivery of securities is not synchronized with payment for them.

Operating Risk. Operating risk is the risk that inadequate internal controls, procedures, human error, system failure, or fraud can result in unexpected losses. This risk

could lead, for example, to open positions or credit exposures that exceed established limits. Given the complexity of some instruments, the internal risk management and control systems of banks engaged in these transactions must exhibit a high level of sophistication. It is also essential that effective lines of communication be established between senior management and the management and staff of the operating and trading departments that execute, value, record, and monitor derivative product transactions. This communication must be effective, so that managers at all levels fully understand, and act within, the parameters of the bank's overall risk management strategy and, importantly, so that senior management is aware of, and comfortable with, the full range of risks taken.

Market Liquidity Risk. Market liquidity risk is the risk that a financial asset or off-balance sheet instrument cannot be sold or replaced quickly at, or very close to, its fundamental value. Market liquidity can change gradually over time, or rapidly in times of market stress, and in some markets can vary significantly over the course of the trading day.

Legal Risk. The most significant losses to date in derivative markets have resulted from legal risk. A number of participants in the swap markets suffered losses on contracts with local authorities in the United Kingdom when those jurisdictions were found to be without authority to enter into swap contracts, that is, that the contracts were ultra vires. Subsequently, defaults by local authorities resulted in losses to their counterparties, as rates had moved against the local authorities.

Another source of concern relates to the legal enforceability of netting provisions under which exposures from multiple derivative transactions are netted. Master agreements with netting provisions are used to reduce the overall level of credit risk to a counterparty. Where a bank has undertaken a number of contracts with a particular

counterparty subject to a master agreement, the bank runs the risk that, if the counterparty fails, the receiver for the counterparty could refuse to recognize the validity of the netting provisions. In such an event, the receiver could repudiate individual contracts under which the counterparty was obligated to pay the bank, while demanding payment on those contracts on which the bank was obligated to pay the counterparty. Although relevant in dealings with some non-U.S. counterparties, this risk has been significantly reduced for financial institutions in the United States by recent amendments to the Bankruptcy Code and the Federal Deposit Insurance Act and by enactment of the payment system risk reduction provisions of the Federal Deposit Insurance Corporation Improvement Act.

Banks have taken steps to limit potential legal risks by obtaining opinions of counsel that counterparties have legal authority to enter into contracts and by strengthening due diligence and suitability reviews of counterparties. Banks and other market participants also are working together through an industry trade group, the International Swaps and Derivatives Association, to address common legal concerns.

QUESTION A)3)

What steps has your agency taken to ensure the safety and soundness of bank holding companies involved in derivative product activities?

The Federal Reserve regulates and monitors the derivatives activities of banks and bank holding companies under its jurisdiction through its risk-based capital adequacy guidelines, regulatory reporting requirements, on-site examinations and policy guidance on safe and sound banking practices. On-site bank examinations and bank holding company inspections are the cornerstone of supervisory efforts to evaluate the risks inherent in virtually all banking activities including off-balance-sheet transactions. To ensure that on-site evaluations of derivatives activities are comprehensive and effective, examiners receive training as well as significant supervisory and regulatory policy guidance through a number of technical supervisory manuals and the use of a system of SR (supervision and regulation) letters. The development of institution-specific examination procedures, the review of reports received from banking organizations, on-going monitoring of derivatives markets and payment and settlement systems, as well as studies and publications, are also important elements of the system that the Federal Reserve has developed to ensure the safety and soundness of banking organizations engaged in derivatives activities. A brief summary of each of these areas follows.

Risk-Based Capital Guidelines -- In 1989, the Federal Reserve System adopted risk-based capital requirements that require institutions to hold capital against the credit risk inherent in both on- and off-balance-sheet instruments. The current guidelines require that capital be held against credit equivalent amounts for both interest-rate and foreign-exchange contracts. These credit-equivalent amounts are computed to account for

both the current risk exposure of a contract and the potential future risk that may arise over the contract's remaining life. Item 1 of the Supplemental Material contains the Federal Reserve's Risk Based Capital guidelines.

Bank supervisors are in the process of incorporating market risks, such as interest rate, foreign exchange, equity price, and commodity price risk into the current capital guidelines. Pursuant to Section 305 of Federal Deposit Insurance Corporation Improvement Act of 1991 (FDICIA), the banking agencies are moving forward to incorporate interest rate risk into the risk based capital guidelines. On September 14, the banking agencies published in the Federal Register a Notice of Proposed Rulemaking on this issue (Item 2 of the supplemental material). The proposal outlines specific treatment for assessing the interest rate risk of derivatives activities in the context of the overall interest rate risk of a bank. After the comment period, the agencies will develop a final rule.

In addition, there are international efforts underway to incorporate market risks into the risk-based capital standards. In April 1993, the Federal Reserve Board issued for public comment several consultative papers on market risk and bank capital developed by the Basle Committee on Banking Supervision, under the auspices of the Bank for International Settlements (Item 3 of the supplemental material). The papers discuss the supervisory treatments of netting arrangements, capital requirements for traded debt and equity portfolios of banks, foreign exchange risk, and interest rate risk in the "banking book." The papers describe the current status and direction of ongoing efforts directed at internationally active banks in the supervision of market risk.

The response to Question A)4) discusses in greater detail the Federal Reserve's current capital requirements for derivatives activities and summarizes both the international and domestic initiatives regarding capital adequacy and market risks that are underway.

Reporting Requirements for Derivatives Activities - The primary regulatory source for financial statements of federally-insured commercial banks and savings banks are the quarterly Reports of Condition and Income, commonly referred to as Call Reports, which are currently required to be filed in a manner generally consistent with generally accepted accounting principles (GAAP). These reporting requirements are determined by the Federal Reserve and the other federal banking agencies ("agencies") under the auspices of the Federal Financial Institutions Examination Council (FFIEC). Bank holding companies provide similar data to the Federal Reserve in the quarterly Y-9C report, which is required to be filed in a manner consistent with GAAP. Information on derivatives is presented in certain reporting schedules on the Y-9C report.

Both reports disclose the notional values of foreign exchange and interest rate derivative instruments including swaps, futures and forward contracts, option contracts and similar contracts involving commodities and equities. Information on the replacement costs of interest rate and foreign exchange contracts that have a positive market value to the reporting entity are also collected in both reports for the purposes of calculating risk-based capital requirements. Both reports are generally available to the public.

In addition to these financial statements, the FFIEC 035 report collects information on individual bank foreign exchange positions. The 035 report is filed at the end of each month by approximately 125 banks, bank holding companies and foreign bank branches in the United States with $1 billion or more in foreign exchange commitments. The

report includes information on foreign exchange activity in the six major currencies or currencies in which the reporter has a position greater than $50 million.

Beginning in 1994, reports filed pursuant to the mandate of Section 112 of FDICIA will provide additional insight into the derivatives activities of banks and bank holding companies. Under Section 112, state member banks with total consolidated assets of $500 million or more will have to submit to the Federal Reserve annual reports containing audited financial statements prepared in accordance with GAAP; alternatively, consolidated financial statements can be filed by the bank holding company ("FDICIA Section 112 annual reports"). Such GAAP financial reports will contain additional information regarding derivatives as outlined in the response to Question A)9).

On-Site Examinations As indicated earlier, on-site bank examinations and inspections are the cornerstone of supervisory efforts to evaluate the risks inherent in off-balance-sheet transactions. Full-scope examinations include detailed reviews of management and assessments of capital adequacy, asset quality, earnings, and liquidity. They are often supplemented with targeted exams designed to address specific concerns, and also with meetings with bank management to discuss relevant concerns and to review developments in the market.

Any full-scope, on-site examination contains a review of the institution's infrastructure for measuring and controlling risk. This review may be especially important regarding derivative activities because of their complexity and the need to measure and evaluate the risks accurately, set internal limits, and maintain adequate controls and information systems. To receive a favorable assessment, the risk management approach must be comprehensive, and the bank's senior management must be well-informed about the bank's

risk-taking activities, the nature of the underlying risks, and the interrelationships of different types of risk.

A bank's system of internal controls for its derivatives activities should include a comprehensive audit program, staffed by independent and knowledgeable professionals. Examiners review not only the audit program, but also the adequacy of the front office procedures and back office processing regarding, for example, the pricing and valuing of bank derivative portfolios.

To ensure that on-site examinations of derivatives are comprehensive and effective, the Federal Reserve provides examiners with detailed policies and procedures, as discussed below, and has training programs to ensure that staff conducting such examinations are well qualified. The response to Question A)6) provides detail on the Federal Reserve's training programs.

Examination Policies and Procedures To guide examiners in planning and conducting on-site examinations, a number of technical supervision manuals have been developed by the Federal Reserve System. In general, these manuals are divided into sections relating to appropriate asset, liability, banking activity or examination categories. In turn, a typical section contains an introductory discussion of sound banking practices and examination procedures along with specific examination objectives, procedures and internal control questionnaires to be used in conducting an exam. Although they are not definitive legal sources, these manuals, when supplemented with subsequent policy guidance communicated through various SR letters, serve as working references to current regulatory and supervisory policies and procedures.

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A number of Federal Reserve supervisory manuals deal directly with, or contain sections pertaining to, the oversight of derivatives activities. These documents include a recently developed Trading Activities Examination Manual; the Commercial Bank Examination Manual and its supplement, the Merchant and Investment Bank Examination Manual; the Bank Holding Company Supervision Manual; and, Guidelines and Instructions for Examinations of Edge Corporations. A brief summary of these manuals and/or the specific sections relevant to derivatives activities is presented below:

Trading Activities Examination Manual - Over the past 18 months, staff of the Federal Reserve Bank of New York, in consultation with staff of the Board of Governors (Board Staff) and other Reserve Banks, have developed a Trading Activities Examination Manual that directly addresses the supervision of trading and customer accommodation activities, with special emphasis given to derivative instruments. This manual, which is attached as Item 4, is currently undergoing field testing. While the manual is largely a codification of current procedures, it also enhances some current examination practices and initiates new supervisory approaches in light of the various regulatory and industry studies that have been conducted over the past several years. The manual takes a comprehensive approach to evaluating an institution's derivatives activities and provides examination procedures for evaluating its organizational structure, front- and back-office operations and systems, approaches to market and credit risk measurement, and its overall risk management function pertaining to derivatives activities.

Commercial Bank Examination Manual - The Federal Reserve's Commercial Bank Examination Manual also has several sections that either deal with or have elements addressing derivatives activities. The relevant sections provide procedures for assessing the

following: (i) capital adequacy, (ii) funding practices, including interest rate risk and liquidity management, (iii) asset-backed securities and securitization activities, (iv) international operations of banking organizations, including examiner guidelines for evaluating banker's acceptances, letters of credit, guarantees, foreign exchange activities, and LDC asset swaps and options.

Merchant and Investment Bank Examination Manual (Supplement to Commercial Bank Examination Manual) - Published in 1988, this manual provides specific examination objectives and procedures for evaluating the activities of merchant and investment bank subsidiaries of U.S. banking organizations. Activities addressed by this manual include: (i) asset sales, securitization and loan syndication; (ii) interest rate and currency swaps and FRAs; and (iii) financial futures and options, and foreign currency options. Although this manual directly targets the examination of merchant and investment bank subsidiaries, many of the activities discussed are common and permissible for other offices of a parent organization. Therefore, examiners have used the procedures set forth in the manual to examine these activities wherever they have been encountered in a U.S. bank or bank holding company.

Bank Holding Company Manual - The Federal Reserve's Bank Holding Company Examination Manual also has sections that either deal with or have elements addressing derivatives activities. The relevant sections provide procedures for evaluating the following: (i) futures, forwards, and option activities, (ii) underwriting and dealing in certain debt and equity securities of authorized institutions, (iii) risk exposure of asset-backed securities, (iv) futures commission merchant subsidiaries that engage in a variety of permissible activities, including clearing of certain futures contracts and giving investment

advice on financial futures and options on futures, (v) other nonbanking activities which the Board has approved or disapproved on an individual basis, some of which relate to derivative products.

Guidelines and Instructions for Examinations of Edge Corporations - Federal Reserve examiners use the derivative-related sections of these guidelines in evaluating the activities of highly specialized international banking organizations including: (i) product innovations with emphasis on inherent risks and impact on profitability, (ii) foreign exchange transactions, including currency swaps.

Specialized Examinations - In conducting specialized examinations of trust departments, Federal Reserve examiners also evaluate the use of derivative instruments in customer accounts to ensure that their use is in accordance with applicable fiduciary principles, laws, and regulations.

Customized Examination Procedures - The examination policies and procedures presented in the various supervisory manuals form a basis for conducting consistent and objective examinations of varying levels. In smaller institutions some procedures may not apply, resulting in a somewhat condensed examination process than that set forth in the technical manuals. Conversely, in larger institutions additional procedures are incorporated into the process to effectively examine their complex and sophisticated activities, organization, controls, and reporting and accounting systems. The scope of any additional procedures is determined by the examiner-in-charge and depends on the individual institution being examined.

Market Intelligence. The Federal Reserve relies on internal and external sources for gathering market intelligence. Because many off-balance-sheet activities affect

securities, foreign exchange and other markets, the Federal Reserve learns much about derivative activities through its on-going monitoring of these markets. Many of these efforts require extensive interviews with market participants, analyses of available data on transaction volumes and prices, and theoretical assessments of the inherent risks. For example, the Federal Reserve open market and foreign exchange staffs in Washington and New York regularly monitor developments in a broad range of financial markets. External sources of information include organizations such as the International Swap Dealers Association and the various exchanges which provide information about current practices and emerging trends and about financial instruments and their risks.

Payment and Settlement Systems. The growth of derivative instruments has created complex chains of counterparty exposures and, in the case of exchange-rate contracts, a significant expansion of payments and settlements activity. Consequently, the Federal Reserve, in particular, closely monitors the payment and settlement mechanisms and has taken steps designed to reduce risks and guard against payments "gridlock." These efforts often involve coordinating general market information with examination findings.

Confidence in the clearing process is vital to maintaining the liquidity of a wide variety of markets for both derivative and underlying instruments, and has become more important as these markets have grown. As part of efforts to improve the clearing process, the Board of Governors and the New York Reserve Bank have formed committees of senior Federal Reserve officials to evaluate and discuss payment systems issues.

The Federal Reserve has also been involved in international efforts to analyze and discuss clearing and settlement arrangements of various types. As part of this process, Federal Reserve Board Governor Angell chairs the Basle Committee on Payment and

Settlement Systems, which consists of representatives from the central banks of the G-10 countries and serves as a forum for the monitoring and analysis of developments in payment and settlement systems, both domestic and cross-border.

Studies and Publications. The Federal Reserve has participated in a number of studies and research efforts aimed at educating examiners, supervisory personnel, and other staff about developments in derivative markets. Such efforts conducted under the auspices of the Bank for International Settlements involve supervisors from other countries and also serve to inform senior bank managements of the risks in these activities as perceived by supervisory agencies. A series of BIS studies have been published: Recent Innovations in International Banking (the "Cross Report," 1986), Report of the Committee on Interbank Netting Schemes of the Central Banks of the Group of Ten Countries (the "Lamfalussy Report," 1990), and Recent Developments in International Interbank Relations (the "Promisel Report," 1992).

In addition to these international publications, the Federal Reserve undertakes its own studies. For example, the Federal Reserve Bank of New York has published a two-volume staff study entitled International Competitiveness of U.S. Financial Firms which includes targeted looks at individual markets such as foreign exchange and the global swap market. Generally, such studies assess the risks and benefits of various activities while providing topical information about current market trends and developments.

QUESTION A)4)

Do current international and domestic capital standards adequately reflect the risks associated with derivatives activities?

Current Capital Requirements for Derivatives

Current capital requirements for derivatives are governed by the standards of the Basle Accord that were published in 1988 and adopted into the Federal Reserve Board's capital adequacy guidelines for state member banks and bank holding companies. Their current focus is on credit or counterparty risk, rather than market risk, although banks are expected to hold sufficient capital to guard against all risks. Prospective capital standards for market risk are addressed in the proposals recently released for comment by the Basle Supervisors' Committee and in the interest rate risk proposal recently issued by the federal banking agencies.

The existing capital adequacy standards address the credit risk associated with a bank's on- and off-balance-sheet activities, including those relating to derivative instruments, which are divided into two broad categories: interest rate contracts and exchange rate contracts. Interest rate contracts include interest rate swaps, forward rate agreements, purchased interest rate options, and any other instruments that give rise to similar credit risk. Exchange rate contracts include cross-currency interest rate swaps, forward foreign exchange contracts, purchased currency options, and any other instruments that give rise to similar credit risk. Equity-based and commodity-linked derivatives receive the same treatment as exchange-rate contracts.

The capital requirement for a given derivative contract is based on its estimated "credit-equivalent amount" which consists of two parts: its current (positive) replacement cost (if relevant) and a component representing potential future exposure. As pointed out in the

response to Question A)2), the current replacement cost, if positive, reflects the credit exposure to the default of a counterparty. The second component is calculated as a percentage of the notional value of the instrument underlying the derivative contract and is dependent on the contract's remaining maturity and the type of underlying instrument. The credit-equivalent amount is then assigned a risk weight that ranges from 0 to 50 percent, depending on the creditworthiness of the counterparty. For example, transactions with banks would be assigned a 20 percent weight, while those with nonfinancial corporate business would be weighted at 50 percent. Banks must maintain a minimum capital ratio of 8 percent against on-balance-sheet assets and the credit equivalent amount of off-balance-sheet items, including derivative instruments. Item 1 of the Supplementary Material contains a more in-depth discussion and illustration of the Federal Reserve Board's risk-based capital guidelines for derivatives.

Proposed Capital Requirements for Derivatives

When the Basle Accord was reached in 1988, authorities recognized its limitations, including the need to develop capital standards for market risks such as interest rate and foreign exchange risks. In April 1993, the Basle Supervisory Committee issued a series of comment papers that propose capital standards for market risks arising from a bank's traded debt and equity securities, and from their overall foreign exchange exposures, including any derivatives that are part of a bank's trading book. Concurrently, the Basle Supervisory Committee also issued a proposal that would amend the 1988 Basle Accord to recognize certain legally binding netting arrangements between counterparties (bilateral netting) on derivative products.

Basle Supervisory Committee Market Risk Proposals - The market risk proposals define capital standards for positions in traded debt securities and equities, as well as foreign exchange. The proposals are complex, and the following discussion only highlights their treatment of derivatives activities. Full details are included in Item 3 of the Supplementary Material. In general, derivatives that are part of the trading book are converted into equivalent positions in the underlying instrument and incorporated into the appropriate framework of the market risk proposal: debt securities, equities, or foreign exchange. In the case of traded options, the market risk proposals offer a number of simplified rules for players that rely on options primarily for hedging purposes.

Traded debt securities are distributed into time bands based upon their maturities and repricing periods, with the value in each time band then multiplied by a weight that reflects the estimated sensitivity of the instruments to a specific change in interest rates. Derivative instruments are treated similarly by using their equivalent positions in the underlying instruments. A capital charge is then assessed against the net open position within each time band. However, since offsetting positions may not represent perfect hedges (because of factors such as basis risk and the likelihood of nonparallel shifts in the yield curve), full offsetting is not allowed. Such "disallowances" to complete netting produce additional capital requirements. For traded equity positions, the capital charge would be based on a fairly simple short hand method of calculation.

The proposal regarding foreign exchange offers two methods for determining the capital charge: a shorthand rule based on a bank's net open foreign exchange position and a simulation method for more sophisticated banks. As with debt securities and equities,

foreign exchange derivatives are generally incorporated into the framework by converting the derivative into an equivalent position in the underlying instrument.

Netting Proposal - The netting proposal would amend the 1988 Basle Accord to recognize certain forms of bilateral netting of credit exposures, including those involving derivative instruments. Under the proposal, banks would be permitted to recognize for capital purposes bilateral netting agreements that meet strict legal standards regarding enforceability. The proposal could lead to a significant reduction in the bank capital requirement for derivatives activities, largely reflecting the reduced counterparty risk associated with legally valid bilateral netting arrangements under so-called "master agreements."

Under the proposal, the overall capital charge for credit or counterparty risk would be based on the net positive mark-to-market value of the transactions covered by a bilateral netting arrangement, rather than on the sum of the positive mark-to-market values of each transaction. However, as under the 1988 Basle Accord, the add-on for potential future exposure would continue to be based generally on the underlying gross notional amount of each transaction. The Federal banking agencies are in the process of developing proposed regulations that would implement this proposal.

Proposed Treatment Under Section 305 of FDICIA - On September 14, 1993, the federal banking agencies issued for public comment a Notice of Proposed Rulemaking on interest rate risk in response to Section 305 of FDICIA. The proposal advances a specific treatment for assessing the interest rate risk of derivatives activities in the context of the overall interest rate risk of a bank. As proposed, institutions with a notional value of off-balance-sheet interest rate contracts amounting to more than 10 percent of total assets would be required to report additional data on their derivative positions to enable supervisory

assessment of the interest rate risk exposure of the positions and their contribution to the overall risk profile of the institution. Specifically, the notional values of interest rate swaps, futures and forwards and the delta-equivalent values of options, caps and floors would be reported across maturity time bands and used within a supervisory risk weighting methodology to estimate the potential change in the value of these instruments for a designated interest rate scenario. The proposal also offers institutions an alternative approach to evaluating their interest rate risk, including that related to derivatives activities, that would allow institutions to report the change in value of their assets, liabilities and off-balance-sheet contracts under a specified interest rate scenario using the institution's own internal models. Such estimates, including the underlying assumptions used, would be subject to examiner review for acceptability prior to their use for capital adequacy purposes.

QUESTION A)5)

Please summarize your agency's strategy for supervising bank holding company derivative product activities.

As noted in the response to Question A)3), the Federal Reserve supervises bank and bank holding company derivative product activities through a number of means including risk-based capital adequacy guidelines, regulatory reporting requirements, on-site examinations and inspections, policy guidance on safe and sound banking practices, examiner training, special studies and the monitoring of derivative markets and payment and settlement systems. Of these approaches to supervision, the Federal Reserve considers on-site bank examinations and inspections to be the cornerstone of supervisory efforts to evaluate the risks inherent in off-balance sheet transactions.

Full-scope examinations or inspections include a detailed review of management systems and assessments of capital adequacy, asset quality, earnings and liquidity. To ensure that an institution is following safe and sound practices with regard to its derivative activities, a thorough review of the institution's infrastructure for measuring and controlling risk is performed. This review is especially important for derivative activities because of their complexity and the need for management to measure and evaluate the risks accurately, set internal limits, and maintain adequate controls and information systems.

The examination or inspection evaluates whether an institution manages its risk in an integrated and comprehensive manner and whether the bank's senior management is well-informed about the bank's risk-taking activities, including the nature of the underlying risks, and the interrelationships of different types of risk. In addition, the adequacy of the front office procedures and back office processing regarding, for example, the pricing and

valuing of bank derivative portfolios is also evaluated. As a further check on the adequacy of an institution's internal control systems, the institution's comprehensive audit program is also evaluated to determine whether it is effective and staffed by independent and knowledgeable professionals. The Federal Reserve's trading activities manual, which is item 4 of the supplementary material, provides a comprehensive view of the procedures used to examine derivatives activities.

Troubled institutions, or institutions that otherwise show high-risk profiles, undergo greater on-site scrutiny and off-site analysis of reported information and are typically required to submit additional information on their activities. In general, the Federal Reserve requires troubled institutions to minimize their existing risk and to limit the size of new off-balance sheet activity. Such supervisory oversight significantly reduces the potential that a troubled institution might seek to recover past losses by taking speculative positions in derivative instruments. To date, no commercial bank failure has resulted from derivative products exposure.

Because effective on-site examinations are critical to the Federal Reserve's strategy for supervising derivatives activities, great emphasis is placed on ensuring that examiners and policy-makers keep abreast of new and ever-changing developments in derivative markets. To accomplish this goal, the Federal Reserve relies on numerous sources of information: on-site examinations and inspections; financial data reported periodically by banking institutions; information obtained during discussions and visitations with market participants; studies, publications, and other communications with academics, market practitioners, and supervisory authorities. Examination techniques, training materials and supervisory procedures are revised accordingly. This information is disseminated to

examination staff through the training programs described in the response to Question A)6), and resource documents described in the response to Question A)3).

To supplement the monitoring of derivatives accomplished through on-site examinations, institutions are required to report their derivative positions quarterly in regulatory reports. As noted earlier, information on both notional values and replacement costs on interest rate and foreign exchange contracts is currently collected in the Call Report and Y-9C Report. A discussion of reporting requirements is included in the response to Question A)9).

To ensure that institutions hold capital commensurate with the risk posed by derivatives activities, the Federal Reserve sets minimum capital standards through its capital adequacy guidelines. A discussion of current and proposed capital requirements for derivatives activities is included in the response to Question A)4).

Another aspect of the Federal Reserve's supervision is its authority to determine which particular derivative activities are permissible or appropriate for bank holding companies or to approve specific activities for individual companies. That process is described in the response to Question C)3).

QUESTION A)6)

What steps has the Federal Reserve taken to ensure its examiners are properly trained to supervise derivative activities? How many examiners are trained to supervise bank holding company derivatives activities? Is there a separate "derivatives" examiner corps at the Federal Reserve?

Examiner Training As with other banking activity and examination topics, examiner expertise in the area of derivatives activities is developed through an apprenticeship program that combines various types of formal educational programs in conjunction with on-the-job training under the supervision of senior examiners. Educational programs are offered in four basic ways: as part of the core curriculum required of all examiners; in advanced educational programs targeted at specialized examiners; through attendance at outside conferences and educational programs; and, through internally developed customized seminars on topics for advanced-level examiners. The following discussion summarizes the derivatives training offered to examiners.

Core Curriculum - The Federal Reserve core curriculum of courses that an individual must complete to be considered for "examiner" status consists of a series of four Examiner Training Schools that are commonly referred to as ETS I through ETS IV. Three of these schools present material on derivatives at progressively increasing levels of depth and sophistication.

Specialized Courses and Conferences - Three formal courses and three seminars are regularly offered to examiners who require special training in derivatives and related areas. The "Basic International Banking Self-Study Course" discusses all aspects of international banking, and two of the five modules pertain to derivatives. One module on foreign exchange trading discusses the use of forwards, futures, and swaps for managing

foreign exchange and interest rate risk. A second module on capital markets operations discusses hedging with derivatives in detail, including the use of interest rate caps and floors.

An additional course, which was developed by the Federal Reserve for the FFIEC, is the "International Banking Course." This course contains three days of lectures on foreign exchange and interest rate risk, and the tools (futures, forwards, options, and swaps) used to manage those risks.

To facilitate the implementation of Section 305 of FDICIA and to ensure that examiners have a fundamental understanding of basic capital market instruments, Federal Reserve staff has developed a new one week course titled "Interest Rate Risk and Securities Activities." This course contains an entire day of presentations on the fundamentals of how banks use swaps, futures, forwards, options, caps, and floors. This course also has one day devoted to interest rate risk and has several presentations on accounting issues dealing with investments and derivative activities.

Three specialized conferences that address derivatives activities are regularly offered on an interagency basis through the FFIEC. The "Off-Balance-Sheet Risk" conference is a three and one-half day lecture/discussion targeted at examiners who regularly participate in examinations of the capital markets sections of large money center banks. Topics covered include derivative products and risk management systems. The "Risk Management Planning" conference is a one and one-half day lecture on banks' risk management process. The "Payments System Risk" conference is a one and one-half day lecture for examiners on how to evaluate risk in payments and the settlement process. In addition, a one-week "Emerging Issues" conference includes topical information on various issues relating to derivatives activities.

Courses from Private Organizations - Examiners also benefit from several Federal Reserve sponsored courses on derivatives that are designed and instructed by private organizations. Over the past several years more than 200 Federal Reserve examiners have attended an "International Treasury and Capital Markets Seminar" that is conducted by the audit staff of a major money center bank and derivatives dealer. This two-week course focuses on foreign exchange and interest rate derivative products, appropriate internal control systems within the risk management process, techniques of risk management, and auditing considerations regarding the risk-management function.

Many examiners have also benefited from a three-day course offered by the Options Institute of the Chicago Board Options Exchange. This course describes how the options exchanges work, discusses basic option strategies and offers insight into risk management strategy.

In addition to the various industry conferences and seminars on derivatives sponsored by industry associations and academic institutions, Federal Reserve staff has also attended several seminars on derivatives that have been offered for regulatory personnel on a one-time basis by industry associations and individual institutions. One example is a four day seminar titled "Derivatives for Regulators" that was sponsored by the Federal Reserve Bank of Chicago with cooperation from industry practitioners. The seminar covered all aspects of derivatives including their uses and risk management techniques.

Examiners Focusing on Derivatives Activities Of a total field examination force of approximately 1,500 examiners across the entire Federal Reserve system, more than 200 have specialized experience or education in derivatives activities. As such, expertise is

developed through an apprenticeship program that combines various types of formal educational programs with on-the-job training under the direction of senior examiners. Many of the Federal Reserve examiners with derivatives expertise specifically focus on the activities of large domestic and internationally-active banks and bank holding companies. Each Federal Reserve Bank has examiners and other supervisory staff that focus on capital market issues such as the use of derivatives. Where needed, Federal Reserve Banks have special units that target these activities and are generally available to provide supplemental examination support when special issues arise. In addition, these specialists also train Federal Reserve Bank staff through the ongoing training programs on derivatives and other capital markets issues.

QUESTION A)7)

To what extent does our multi-layered bank regulatory system complicate efforts to supervise derivatives activities at bank holding companies? Would a single regulatory agency improve oversight and supervision of bank derivatives activities? Please respond to Comptroller Ludwig's call for the creation of an interagency task force on derivatives.

The U.S. bank regulatory structure should have little or no negative effect on the quality or efficiency of the supervisory process relating to bank derivative activities. Among the three federal commercial bank regulatory agencies, only the Federal Reserve has statutory responsibilities for regulating and supervising the consolidated activities of a bank holding company, including those of its nonbank subsidiaries. In meeting these responsibilities, the Federal Reserve has consistently sought to coordinate its oversight activities of a holding company with the primary supervisor of any subsidiary bank and has placed primary reliance on that supervisor for evaluating the bank's activities.

Beyond the direct responsibilities each agency has as primary supervisor for its specific banks, both the Federal Reserve and the FDIC have additional inherent interests. As the central bank, the Federal Reserve must ensure that a bank's activities will not adversely affect the nation's payment systems or otherwise present unacceptable levels of systemic risks, and as the regulator of bank holding companies it needs assurance that any bank subsidiary is operating in a generally safe and prudent manner. For its part, the FDIC has an interest in all insured banks because of the potential threat a weak or failing bank presents to its deposit insurance fund.

The various agencies have made determined efforts to ensure that the system of multiple regulators does not result in a loss of efficiency or greater supervisory costs. The banking agencies have had for many years supervisory policies designed to avoid, or at least

minimize, overlapping efforts by relying on examinations or inspections conducted by an entity's primary regulatory authority. Most recently, the agencies issued a joint statement in June clarifying and reaffirming the agreement that the examination or inspection of a bank or bank holding company will be conducted by the federal regulatory agency that has primary supervisory authority for that entity. When necessary, other agencies may participate in the examination or inspection by the primary regulator.

The banking agencies are taking steps to ensure that the cooperation and coordination that exists for all other aspects of bank supervision is extended to derivatives activities. The Federal Financial Institutions Examination Council (FFIEC) is investigating accounting, disclosure, and other regulatory reporting issues as they relate to derivatives activities. As with other interagency efforts, the FFIEC provides a satisfactory framework for coordinating these and other bank supervisory matters. Nevertheless, the complexity of derivatives issues and the wide range of expertise required to address those issues makes coordination especially challenging. For this reason, the agencies responded to Comptroller Ludwig's call for an interagency task force by forming a group of derivatives specialists to advise existing interagency working groups.

QUESTION A)8)

How does regulation and supervision of derivatives activities differ between banks and nonbanks?

The basis of the authority to engage in derivatives transactions differs for federally regulated banks and nonbank subsidiaries of bank holding companies. Banks generally engage in such transactions pursuant to the authority granted under their charters. Bank holding companies and their nonbank subsidiaries generally must conduct derivative activities under authority granted by the Board. To receive that authority, a bank holding company must meet certain tests established under the Bank Holding Company Act of 1956.[1] In particular, the proposed activity must be considered to be so closely related to banking or the management and control of banks that it is a proper incident to banking.[2]

Generally, there are strong similarities between the regulation and supervision of banks and that of bank holding companies and their nonbank subsidiaries, particularly with regard to activities such as derivatives. The inspections of bank holding companies and their nonbank subsidiaries are analogous to bank examinations, although they can differ in a number of respects. For example, unlike the bank examination process, which generally covers all aspects of a bank's operations, bank holding company inspections may be targeted somewhat more narrowly. Such targeting is especially the case for derivatives activities where specific examination guidance requires the on-site examination of all subsidiaries that provide derivative instruments for sale or as a service to unaffiliated parties.

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[1] See 12 USC § 1841 et seq.

[2] 12 USC § 1843(c)(8).

The focus of bank holding company inspections is to ensure that the activities of the bank holding company are being conducted in a manner that does not threaten the safety of its affiliated banks. For nonbank holding company subsidiaries engaged in derivatives activities, as for banks engaged in such activities, these inspections concentrate on the ability of the institution to adequately monitor and control the risks related to derivatives activities. The standards used by examiners in conducting this type of bank holding company inspection generally would not differ from the standards used in conducting bank examinations of derivatives activities.

The capital requirements applicable to the consolidated bank holding company are substantially similar to the requirements applicable to insured banks. The capital standards applicable to derivative activities are similar for both types of entities. Recognizing that the nonbank subsidiaries of holding companies may engage in a broader range of activities than banks, however, the adequacy of capital for an individual nonbank holding company subsidiary is assessed in relation to the level of capital held by other entities engaged in the same type of activities. Where the subsidiary is engaged in activities that are often engaged in by banks, such as OTC derivatives activities, an analysis of the level of capital that a bank would be required to hold for the same level of activity would be an important measure of the capital level that would be considered appropriate for the holding company subsidiary.

Reporting requirements for bank holding companies on a consolidated basis also are substantially similar to reporting requirements for federally regulated banks. The same level of reporting is not generally required for individual nonbank subsidiaries. In this

regard, more detailed information about specific nonbank subsidiaries may be sought during the normal inspection process, particularly if supervisory concerns are raised.

QUESTION A)9)

Does your agency support additional financial reporting requirements (e.g. credit exposure, replacement cost exposure, etc.) related to bank derivatives product activities?

The growing complexity of the derivatives markets has caused the Federal Reserve to re-examine its informational needs. This re-examination includes all of the information sources used in the supervisory process. To this extent, it is important to note that the Federal Reserve's primary source of information on the risk exposures of the derivatives activities of banks and bank holding companies is the annual on-site examination. The information gained through examinations is supplemented with that obtained from periodic communications between supervisory staff and bank management between examinations and with data on exposures filed in the quarterly Call and Y-9C reports.

As noted in the response to Question A)3), information on both notional values and replacement costs on interest rate and foreign exchange contracts is currently collected in the Call Report and Y-9C Report. Several enhancements to these data are being considered. In particular, enhanced information to assess market risks, concentration of counterparty exposures and the risk reducing effects of legally enforceable netting contracts is under consideration. Because much of the derivatives activity is conducted among a relatively small number of institutions, care is being taken to ensure that any reporting changes are appropriately targeted and do not cause undue reporting burdens on the vast majority of banking institutions that make little or no use of derivative instruments.

The current proposal on interest rate risk developed in response to section 305 of FDICIA, discussed in the response to question A)4), illustrates this attempt to weigh supervisory needs and regulatory burden. Institutions with little derivative activity and that otherwise have little interest rate risk would be exempt from any additional reporting. Those

with a notional value of derivative contracts in excess of 10 percent of assets would be required to report expanded data to enhance the supervisory assessment of the market risk of their interest rate contracts. Moreover, one alternative of the proposal would allow, and in some cases may require, reporting the risk profiles of interest rate derivative contracts under explicitly defined scenarios using the institution's internal models. Similar types of scenario testing for foreign exchange contracts might also be incorporated into existing reports if the BIS proposal on foreign exchange is implemented.

The implementation of the new requirement to file audited annual reports under Section 112 of FDICIA will also enhance available data on derivatives activities. As part of these audited financial statements, banks and bank holding companies will be required to disclose additional information on their off-balance-sheet financial instruments[3] that have a risk of accounting loss.[4] The information to be disclosed includes:

- The face, contract, or notional principal amount;
- The nature and terms of the instruments along with a discussion of their credit and market risk, cash requirements, and related accounting policies;

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[3] Under GAAP, a financial instrument is defined as cash, evidence of an ownership interest in an entity, or a contract that both:

a. Imposes on one entity a contractual obligation (1) to deliver cash or another financial instrument to a second entity or (2) to exchange other financial instruments on potentially unfavorable terms with the second entity;

b. Conveys to that second entity a contractual right (1) to receive cash or another financial instrument from the first entity or (2) to exchange other financial instruments on potentially favorable terms with the first entity.

This definition includes off-balance-sheet derivatives, except for those that permit or require settlement by delivery of commodities.

[4] According to GAAP, the risk of accounting loss from a financial instrument includes (a) the possibility that a loss may occur from the failure of another party to perform according to the terms of a contract (credit risk), (b) the possibility that future changes in market prices may make a financial instrument less valuable or more onerous (market risk), and (c) the risk of theft or physical loss. Institutions are only required to disclose the information noted here for the risk of accounting loss that arises from credit risk and market risk.

- The accounting loss the entity would incur if any party to the financial instrument defaults and the collateral or other security, if any, for the amount due proved to be of no value to the entity; and
- The entity's policy for requiring collateral or other security on financial instruments it accepts and a description of collateral on instruments held.

In addition, banking organizations will disclose information about significant concentrations of credit risk from individual counterparties or groups of counterparties for all financial instruments, including derivatives. Finally, banking organizations will be required to disclose the fair value of financial instruments, including derivatives, for which it is practicable to estimate fair value. When estimating fair value is not practicable, then the banks must disclose descriptive information pertinent to estimating the value of these instruments.

Moreover, under section 112 of FDICIA, the Federal Reserve Board and the other Federal banking agencies were given the authority to require that the audited annual reports of banking institutions include any disclosures, in addition to those required by GAAP, that were deemed necessary. The agencies are actively exploring whether additional disclosures should be required on derivatives activities in these reports.

Other potential enhancements to existing reports include additional information on the credit exposures arising from derivative instruments that are excluded from information currently reported such as the replacement cost of short-dated foreign exchange. Additional information that would help to assess potential concentrations of counterparty credit risk, including data on collateralized contracts, would be helpful for surveillance purposes. Incremental information that would differentiate derivatives used for hedging purposes from those used for other purposes and that would identify the related impact of each category on bank earnings and balance sheets as well as any deferred hedging losses or gains could also be useful. Federal Reserve staff is currently considering initiatives along these lines.

In pursuing these potential enhancements to existing reports, a careful balance must be struck between regulatory burden and supervisory concerns. The implementation of any such reporting enhancements for commercial banks would be done through the FFIEC with suitable public comment. Given the global nature of derivatives markets, some coordination with authorities abroad would be desirable to generate information that is meaningful and consistent across countries, and to reduce the burden on internationally-active banks.

QUESTION A)10)

Does your agency support changing U.S. and international accounting standards to reflect more standardized reporting of derivatives information contained in bank holding company financial statements?

The Board agrees that reaching an international accord on accounting standards for derivative instruments is desirable. We believe that the International Accounting Standards Committee (IASC) should work closely with the bank supervisory agencies of those nations with significant derivatives activities in setting uniform accounting rules to ensure that supervisory concerns about derivatives are fully considered by the IASC and adequately addressed in any final IASC standards.

It should be noted that accounting standards issued by the IASC are not binding requirements that must be met under U.S. generally accepted accounting principles (GAAP). Instead, any guidance that is at variance with GAAP would be adopted only after consideration by U.S. private accounting standards setting bodies and regulatory authorities. IASC standards would undergo a similar process in the other nations having significant derivatives activities. Those countries that do not have formal organizations that set accounting standards may ultimately adopt GAAP through evolution of industry accounting practices. Thus, the promulgation of standards for derivatives by the IASC may not have an immediate impact on the international harmonization of accounting practices followed by the banking industry.

QUESTION A)11)

Are bank holding company risk management systems adequate to address the risks of derivatives activities? Please differentiate between the large, well established dealers versus new entrants to the derivatives market. Is your agency developing standardized guidelines for bank holding company risk management systems?

As pointed out in earlier responses, the increasing scope and complexity of derivatives -- coupled with the urging of supervisors -- has induced financial institutions to upgrade significantly their risk management capabilities. This enhancement of risk management systems has been an evolutionary process as banks themselves have identified important new risk measurement methodologies and management techniques. Such innovations include the use of the concept of value at risk and the implementation of independent risk management units.

The evolution of risk management systems is expected to continue at a rapid pace. Indeed, the recent Group of Thirty study on derivatives marks an important step in this process by contributing importantly to a better understanding of sound risk management and operating practices. As pointed out in the study itself, not all institutions currently follow all of the study's recommended practices. However, many are well underway toward effective implementation of these sound practices.

The nature of the risk management systems needed by any particular institution depends on the types of instruments it uses, the volume of its activities and the business strategies it pursues. Consequently, the adequacy of risk management systems must be assessed on an institution-by-institution basis during the on-site examination process. The Federal Reserve Trading Activities Manual (Item 4 of the Supplementary Material) has been developed to guide examiners in planning and conducting the examination of derivatives

activities . The Sound Practices section of this manual provides a broad overview of the examination considerations used in evaluating risk management systems.

The increasing complexity and the necessarily high level of sophistication of risk management systems required for derivative activities poses a significant challenge for new entrants into derivatives activities. Accordingly, the activities of new entrants receive added scrutiny, and in some cases prior approval is required by the Board before potential entrants may engage in these activities.

QUESTION A)12)

Does your agency require senior managers and board members to pass competency tests to ensure they are experienced in managing the risks associated with derivative activities?

The Federal Reserve does not require competency exams for senior managers or board members to ensure they are experienced in managing the risks associated with derivatives activities; rather, an evaluation of competency in derivatives activities is undertaken as part of the full-scope exam. While competency tests may evaluate the degree of knowledge managers or board members have, the Federal Reserve believes that the examination process provides a more appropriate and direct way of evaluating how well an institution's staff is able to apply their knowledge for managing derivatives activities. Such an evaluation takes into account not only the capability of managers or board members to understand the risks related to derivatives, but also their ability to effectively manage and control these risks in light of the financial condition of the institution, the nature and scope of its activities, and the institution's appetite for risk.

The role and responsibilities of senior management and the boards of directors in managing the risks associated with derivatives activities are addressed more specifically in the response to the next question.

QUESTION A)13)

Should bank holding companies have at least two directors that have direct experience in managing the risks associated with derivatives activities?

The Federal Reserve believes that, other than restrictions relating to management interlock and other conflict of interest restrictions, an institution's shareholders should be free to decide the composition of the board of directors that best serves the interests of shareholders and their community. Though having directors with direct experience in managing derivatives activities may provide some benefit to certain institutions, directors need not necessarily have technical derivatives skills in order to oversee their proper use. Rather, the board of directors, with the assistance of senior management, should focus on determining the institution's overall appetite for risk taking and set the boundaries for acceptable trading activities by establishing position limits. Nevertheless, directors of institutions with significant derivatives activities should be well informed about their risks

Position limits must be adequately implemented and enforced through a system of internal controls and subject to change pursuant to an appropriate review process. The effectiveness of these controls is especially important because the inherent complexity of many derivatives instruments is such that derivatives may only be fully understood by a limited number of people in any single institution. Therefore, banks must be careful to design control procedures that ensure that sufficient checks and balances are in place and that the risks presented by the concentration of technical knowledge are adequately managed.

The board of directors and management are responsible for ensuring that internal control systems provide reasonable assurance that errors and omissions are prevented or revealed before major problems develop. Such procedures should rely heavily on the segregation of responsibilities that would deter or detect fraud and other operating problems

that might otherwise arise because of the concentration of expertise. Functions for which the division of responsibilities is critical include valuation, monitoring of positions and limits, credit analysis, and the analysis and development of overall risk management policies. Concentrating these duties with one person or a small group may create situations in which losses could be easily disguised or hidden, or where imprudent actions could be more easily taken.

Reviewing these control procedures and the manner in which they are enforced is an important element in any examination or audit of the trading activity. Although these limits and controls have not prevented U.S. banks from experiencing individual losses due to fraud or unauthorized trading, they have been sufficient to maintain overall profitability in the banking system's trading activity over the last decade and have prevented losses from trading financial derivatives from significantly affecting the financial viability of any bank.

QUESTION A)14)

Under what scenario(s) could an individual bank holding company fail as a result of derivatives-related activities? What catastrophes in the markets could cause a derivatives-related bank failure? Are banks required to formulate/simulate plans for such catastrophes?

Whether for derivatives-related activity or for traditional banking activities, the basic types of risk faced by banks and bank holding companies are the same. Credit risk, market risk, settlement risk, and liquidity risk are the dominant concerns. A sufficiently large adverse development in one or more of these areas could result in operating losses for the derivatives activity, and, if that activity were sufficiently large, ultimately in failure of the institution.

In this regard, the most significant risk for derivatives activities is that key counterparties could fail or may be otherwise unable to meet their obligations. Netting arrangements can be an important mitigant of credit risk, since they reduce the potential exposure in the case of failure. In addition to credit risk, abrupt changes in the market value of these instruments represent an important element of risk, and could also contribute to financial distress of a counterparty. Derivative products are more complex and their effect on the financial condition of a bank may be less transparent than traditional activities, making the risk that a loss of confidence could cause funding difficulties (illiquidity) more pronounced than for more traditional activities.

Banks are required to have risk management systems commensurate with the sophistication and complexity of their activities, including explicit limits on transactions authority and aggregate positions. In addition, individual firms active in derivatives markets have risk measurement systems that identify the degree of market risk by simulating the value of the bank's derivative portfolio under various assumptions about potential market

conditions. These may include "stress test" simulations, for which management specifies a specific set of circumstances capable of creating a solvency crisis and estimates likely portfolio losses under these conditions. In these simulations, the underlying fundamental parameters that determine derivative product prices are assumed to change by substantial amounts and may include scenarios in which market liquidity is severely curtailed. The results from such stress tests are analyzed by management and used to develop risk management contingency plans, product, market, and counterparty risk limits.

In general, banks are encouraged, and in some cases required, to have contingency plans for a number of banking functions and activities such as electronic data processing, and funding and liquidity risks. Currently, banks are not required to formulate plans for derivative related catastrophes. However, the Federal Reserve Trading Activities Manual which provides guidance on sound practices suggests that contingency planning and stress testing are useful exercises. The Board currently is conducting field tests with this Trading Manual and has under review the extent to which contingency planning and stress testing should be required for institutions with extensive derivatives activity.

B. BANK HOLDING COMPANY DERIVATIVE ACTIVITY

QUESTION B)1)

What percentage of derivatives products are provided by bank holding companies? (i.e. what is bank holding company market share)?

Derivative products are created and used in markets across the globe and, therefore, determining the total market for derivative products involves assembling data from numerous countries and individual participants. Because data from many international and nonbank participants are not available, the total derivatives market cannot currently be determined. This is especially true for OTC derivatives. Certain OTC derivative data are available from surveys and compilations by ISDA and Swaps Monitor Publications, Inc. (Swaps Monitor). However, the ISDA surveys consists primarily of data provided voluntarily by market dealers that are ISDA members and does not contain data for nonparticipating members and other market participants. Data available in the Swaps Monitor publication The World's Major Swap Dealers represent data from publicly available sources for those companies that choose to disclose data on various derivative types. Because disclosure practices differ by country and participant type, meaningful conclusions are difficult to make. To the extent U.S. banks and bank holding companies tend to provide better disclosures than most other participants, use of these data would overstate their presence in these markets. Consequently, an accurate assessment of the market share of bank holding company derivative products cannot be made.

The need for more comprehensive and meaningful statistical coverage of derivative activities on a global basis was a major finding of the 1992 BIS study Recent Developments In International Interbank Relations (the "Promisel Report"). As pointed out in that study, compiling appropriate statistics requires cooperation between market participants,

central banks and supervisory authorities. Efforts to clarify and standardize methodologies so that meaningful data relating to various types of risk exposures can be aggregated across markets and across countries are especially important. Such international efforts are currently underway under the sponsorship of the BIS.

QUESTION B)2)

Please provide a list of bank holding companies that offer derivatives products. Break the information down by type of derivative product, and identify the holding companies that are considered dealers.

The attached tables provide a list of bank holding companies that offer derivatives products at either the bank holding company level or through their insured depository subsidiaries. Table B.1 lists the 215 bank holding companies that reported notional volumes for one or more derivative products on their June 30, 1993 regulatory reports. It provides notional amounts for futures and forwards, swaps, options and total derivatives. Table B.2 summarizes this data by listing the 25 bank holding companies reporting the largest notional volumes of derivative products and an aggregate line for the remaining 190 companies. Table B.3 offers a more detailed break-down of the derivatives holdings of these top 25 companies by delineating their holdings of futures and forwards, swaps and options by type of contract; interest rate, foreign exchange and other.

In general, a "dealer" may be defined as an institution that takes on principal risk and actively provides market liquidity through price quotes both to customers and other dealers. Although there is no official designation of a "derivatives dealer", the ten to fifteen bank holding companies with the largest notional amount of derivatives could be viewed as the principal derivatives dealers among banking institutions.

Table B.1

LIST OF HOLDING COMPANIES REPORTING DERIVATIVE CONTRACTS
JUNE 30, 1993, NOTIONAL AMOUNTS, $ MILLIONS

RANK	HOLDING COMPANY NAME	STATE	TOTAL ASSETS	TOTAL DERIVATIVES	TOTAL FUTURES & FORWARDS	TOTAL SWAPS	TOTAL OPTIONS
1	CHEMICAL BANKING CORPORATION	NY	$145,522	$2,117,385	$1,245,500	$554,257	$317,628
2	BANKERS TRUST NEW YORK CORPORATION	NY	83,987	1,769,947	816,740	355,597	597,610
3	CITICORP	NY	216,285	1,762,478	1,207,132	264,811	290,535
4	J.P. MORGAN & CO. INCORPORATED	NY	132,532	1,550,680	572,897	579,219	398,563
5	CHASE MANHATTAN CORPORATION	NY	99,085	1,125,075	666,150	258,086	200,839
6	BANKAMERICA CORPORATION	CA	185,466	899,783	581,034	229,926	88,823
7	FIRST CHICAGO CORPORATION	IL	49,936	452,780	276,790	100,666	75,324
8	CONTINENTAL BANK CORPORATION	IL	22,352	170,052	61,058	52,953	56,041
9	REPUBLIC NEW YORK CORPORATION	NY	36,205	164,979	81,707	45,504	37,768
10	BANK OF NEW YORK COMPANY, INC. THE	NY	41,045	91,434	65,128	12,200	14,106
11	BANK OF BOSTON CORPORATION	MA	32,766	69,479	49,254	9,092	11,133
12	FIRST UNION CORPORATION	NC	71,959	63,794	17,867	11,672	34,255
13	NATIONSBANK CORPORATION	NC	124,385	47,490	12,832	30,574	4,084
14	MELLON BANK CORPORATION	PA	36,209	37,122	22,834	11,552	2,736
15	BANC ONE CORPORATION	OH	75,413	32,289	2,610	29,349	330
16	BANKMONT FINANCIAL CORP.	NY	16,990	32,107	21,293	2,425	8,388
17	NATWEST HOLDINGS INC.	NY	23,681	29,755	7,717	10,225	11,813
18	STATE STREET BOSTON CORPORATION	MA	18,170	23,785	23,082	600	103
19	PNC BANK CORP.	PA	53,317	20,965	786	8,401	11,778
20	MARINE MIDLAND BANKS, INC.	NY	16,736	15,773	7,055	8,718	0
21	WELLS FARGO & COMPANY	CA	51,329	15,353	5,354	2,953	7,045
22	SHAWMUT NATIONAL CORPORATION	CT	25,892	14,929	8,408	814	5,707
23	SIGNET BANKING CORPORATION	VA	12,052	14,011	3,032	2,633	8,346
24	FIRST INTERSTATE BANCORP	CA	49,488	12,964	1,304	8,166	3,494
25	FLEET FINANCIAL GROUP INC	RI	44,871	12,599	6,733	4,861	1,006
26	HUNTINGTON BANCSHARES, INC.	OH	15,655	11,936	2,372	5,374	4,190
27	NORWEST CORPORATION	MN	47,790	11,226	6,141	3,167	1,919
28	NORTHERN TRUST CORPORATION	IL	16,289	10,810	8,924	1,744	141
29	NATIONAL CITY CORPORATION	OH	28,660	9,262	1,580	6,175	1,507
30	FIRST SECURITY CORPORATION	UT	8,181	8,425	5,169	762	2,494
31	MNC FINANCIAL, INC.	MD	17,208	7,500	1,342	2,554	3,604
32	SOCIETY CORPORATION	OH	25,964	7,232	1,248	5,712	272
33	FIRST BANK SYSTEM, INC	MN	25,580	7,070	3,424	3,003	643
34	CORESTATES FINANCIAL CORPORATION	PA	23,591	7,036	2,405	3,840	791
35	FIRST FIDELITY BANCORPORATION	NJ	32,408	6,857	3,276	3,569	12
36	WACHOVIA CORPORATION	NC	33,237	6,348	3,491	1,922	936
37	NBD BANCORP, INC	MI	40,389	5,776	2,475	2,842	459
38	ABN AMRO NORTH AMERICA, INC.	IL	17,284	4,470	35	3,742	693
39	SUNTRUST BANKS, INC.	GA	37,607	4,412	146	3,480	787
40	COMERICA INCORPORATED	MI	27,513	3,884	660	2,877	348
41	U.S. BANCORP	OR	20,796	3,482	337	1,065	2,081
42	BOATMEN'S BANCSHARES, INC.	MO	24,695	3,274	1,310	1,964	0
43	MIDLANTIC CORPORATION	NJ	13,854	3,222	47	3,175	0
44	FIRST TENNESSEE NATIONAL CORPORATION	TN	8,992	3,181	1,648	1,028	506
45	CENTRAL BANCSHARES OF THE SOUTH, INC.	AL	7,018	2,930	57	491	2,382
46	CRESTAR FINANCIAL CORPORATION	VA	13,242	2,841	639	968	1,234
47	MERIDIAN BANCORP, INC	PA	12,131	2,839	123	1,927	789
48	MICHIGAN NATIONAL CORPORATION	MI	10,584	2,695	830	1,865	0
49	AMSOUTH BANCORPORATION	AL	11,099	2,642	334	1,139	1,169
50	MBNA CORPORATION	DE	6,543	2,200	0	2,200	0
51	FIRST EMPIRE STATE CORPORATION	NY	10,457	2,121	491	1,350	280
52	BANK SOUTH CORPORATION	GA	4,640	2,091	63	2,028	0
53	FIRST MARYLAND BANCORP	MD	9,032	2,049	870	703	476
54	BANCORP HAWAII, INC.	HI	12,746	1,969	984	984	0
55	BANCAL TRI-STATE CORPORATION	CA	7,853	1,736	790	811	134
56	RIVER FOREST BANCORP., INC.	IL	1,334	1,130	0	23	1,108
57	RIGGS NATIONAL CORPORATION	DC	4,923	1,073	983	91	0
58	BB&T FINANCIAL CORPORATION	NC	7,953	984	9	975	0
59	FIRST AMERICAN CORPORATION	TN	6,722	938	34	904	0
60	FIRST HAWAIIAN, INC.	HI	6,394	862	0	562	300
61	DEPOSIT GUARANTY CORP	MS	4,917	861	296	540	25
62	PROVIDENT BANCORP., INC.	OH	3,993	840	5	835	0
63	UJB FINANCIAL CORP	NJ	13,546	836	29	793	14
64	CENTRAL FIDELITY BANKS INC	VA	9,126	794	26	768	0
65	FIRST COMMERCE CORPORATION	LA	6,256	774	1	13	760
66	SOCIETY FOR SAVINGS BANCORP INC	CT	2,399	763	0	385	378
67	OLD KENT FINANCIAL CORPORATION	MI	9,313	759	390	353	16
68	FIRSTAR CORPORATION	WI	13,026	675	23	306	346
69	INDEPENDENCE BANCORP, INC.	PA	2,645	608	0	498	110
70	MARSHALL & ILSLEY CORPORATION	WI	7,711	578	554	0	24

RANK	HOLDING COMPANY NAME	STATE	TOTAL ASSETS	TOTAL DERIVATIVES	TOTAL FUTURES & FORWARDS	TOTAL SWAPS	TOTAL OPTIONS
71	SOUTHERN NATIONAL CORPORATION	NC	5,144	523	4	519	0
72	BARNETT BANKS, INC.	FL	37,378	454	0	454	0
73	FORT WAYNE NATIONAL CORPORATION	IN	2,081	422	422	0	0
74	ZIONS BANCORPORATION	UT	3,925	412	0	40	372
75	INTEGRA FINANCIAL CORPORATION	PA	13,563	374	0	273	101
76	MERCANTILE BANCORPORATION INC.	MO	10,201	369	295	0	73
77	WILMINGTON TRUST CORPORATION	DE	4,165	330	0	330	0
78	BANK LEUMI LE-ISRAEL CORPORATION	NY	2,532	320	195	125	0
79	U.S. TRUST CORPORATION	NY	3,720	319	201	117	0
80	BOULEVARD BANCORP, INC.	IL	1,517	300	0	300	0
81	FIRST ALABAMA BANCSHARES, INC.	AL	8,096	294	254	0	40
82	BANK OF IRELAND FIRST HOLDINGS, INC.	NH	3,780	290	96	100	94
83	FOURTH FINANCIAL CORPORATION	KS	6,113	254	3	251	0
84	BAYBANKS INC	MA	9,773	237	221	16	0
85	NATIONAL COMMERCE BANCORPORATION	TN	2,369	236	211	25	0
86	SOUTHTRUST CORPORATION	AL	13,673	233	3	230	0
87	FIRST MIDWEST BANCORP, INC.	IL	2,512	201	18	181	3
88	TRUSTMARK CORPORATION	MS	4,235	183	183	0	0
89	PROVIDENT BANKSHARES CORPORATION	MD	1,673	176	0	166	10
90	UNITED MISSOURI BANCSHARES, INC.	MO	6,083	169	169	0	0
91	ONBANCORP, INC	NY	3,818	168	0	0	168
92	KEYCORP	NY	32,049	166	0	166	0
93	FIRST NATIONAL BANCORP	GA	1,987	159	150	0	9
94	FIRST BANKS, INC.,	MO	1,990	158	0	0	158
95	STAR BANC CORPORATION	OH	7,442	156	136	0	20
96	COMMONWEALTH BANCSHARES CORPORATION	PA	2,228	156	56	100	0
97	CU BANCORP	CA	331	154	54	100	0
98	FIFTH THIRD BANCORP	OH	10,923	147	147	0	0
99	CENTURA BANKS, INC.	NC	3,224	145	100	35	10
100	UNION PLANTERS CORPORATION	TN	6,083	143	36	100	6
101	BANKNORTH GROUP, INC.	VT	1,620	137	0	137	0
102	MAGNA GROUP, INC	MO	3,569	133	0	133	0
103	COMMERCE BANCSHARES, INC.	MO	7,480	128	0	128	0
104	HIBERNIA CORPORATION	LA	4,668	121	21	100	0
105	CHARTER BANCSHARES, INC.	TX	672	110	0	0	110
106	INDEPENDENT BANK CORP	MA	795	110	0	110	0
107	FIRST OF AMERICA BANK CORPORATION	MI	20,480	108	7	101	0
108	VALLEY BANCORPORATION	WI	4,337	105	0	105	0
109	CANADIAN IMPERIAL HOLDINGS, INC.	NY	5,258	94	0	76	18
110	FINANCIAL INVESTMENT CORPORATION	AR	299	93	0	0	93
111	CITIZENS FINANCIAL GROUP INC	RI	5,250	91	0	90	1
112	BANCORPSOUTH, INC	MS	2,218	84	84	0	0
113	W.T.B. FINANCIAL CORPORATION	WA	1,014	84	65	0	19
114	FIRST COLONIAL BANKSHARES CORPORATION	IL	1,556	83	0	83	0
115	WEST ONE BANCORP	ID	7,392	79	64	15	0
116	PEOPLE'S MUTUAL HOLDINGS	CT	5,834	69	62	0	7
117	SIMMONS FIRST NATIONAL CORPORATION	AR	700	61	48	0	13
118	FIRST MICHIGAN BANK CORPORATION	MI	2,226	58	0	58	0
119	HOMETOWN BANCORPORATION, INC	CT	192	57	0	57	0
120	LIBERTY NATIONAL BANCORP, INC	KY	4,686	55	0	55	0
121	CB BANCSHARES, INC	HI	750	55	0	55	0
122	JACOB SCHMIDT COMPANY	MN	1,196	55	0	5	50
123	COMMUNITY FINANCIAL SERVICES, INC.	GA	189	54	54	0	0
124	BANPONCE CORPORATION	PR	10,869	51	1	50	0
125	FIRST VIRGINIA BANKS INC	VA	6,875	51	51	0	0
126	WESTAMERICA BANCORPORATION	CA	1,925	50	0	50	0
127	NATIONAL PENN BANCSHARES, INC	PA	861	50	0	50	0
128	NATIONAL CITY BANCORPORATION	MN	621	50	0	50	0
129	CENTRAL JERSEY BANCORP	NJ	1,727	50	0	50	0
130	BSB BANCORP, INC	NY	1,061	50	0	50	0
131	MARK TWAIN BANCSHARES, INC	MO	2,311	47	47	0	0
132	KEYSTONE FINANCIAL INC.	PA	3,097	42	0	42	0
133	EASTERN BANK CORPORATION	MA	1,266	40	39	0	1
134	PROFESSIONAL BANCORP, INC	CA	311	40	0	40	0
135	OMEGA FINANCIAL CORPORATION	PA	506	40	0	40	0
136	LIBERTY BANCORP, INC	OK	2,441	35	35	0	0
137	ASSOCIATED BANC-CORP	WI	2,936	35	0	35	0
138	NATIONAL MERCANTILE BANCORP	CA	321	33	0	0	33
139	VERMONT FINANCIAL SERVICES CORP	VT	897	31	21	0	10
140	CAYMAN INVESTMENT COMPANY (OMEGA)		144	31	31	0	0
141	PARK NATIONAL CORPORATION	OH	1,237	30	0	30	0
142	AKTIV BANK HOLDING COMPANY	CA	209	28	28	0	0
143	JEFFERSON BANCSHARES, INC.	TX	252	27	0	7	20
144	COLE-TAYLOR FINANCIAL GROUP, INC	IL	1,486	26	1	25	0
145	GRENADA SUNBURST SYSTEM CORPORATION	MS	2,435	25	0	16	9
146	FIRSTIER FINANCIAL,INC.	NE	2,978	25	0	25	0
147	BANK OF NORTH AMERICA BANCORP, INCORPORATED	FL	489	22	0	22	0

RANK	HOLDING COMPANY NAME	STATE	TOTAL ASSETS	TOTAL DERIVATIVES	TOTAL FUTURES & FORWARDS	TOTAL SWAPS	TOTAL OPTIONS
148	NEWMIL BANCORP INC	CT	286	22	0	22	0
149	LAFAYETTE AMERICAN BANCORP INC	CT	635	20	0	20	0
150	FIRST WESTERN CORPORATION	SD	300	19	0	0	19
151	CASS COMMERCIAL CORPORATION	MO	320	16	16	0	0
152	AUBURN NATIONAL BANCORPORATION	AL	181	15	0	5	10
153	CAMDEN NATIONAL CORPORATION	ME	351	15	0	15	0
154	FIRSTBANK OF ILLINOIS CO.	IL	1,516	15	0	15	0
155	AMCORE FINANCIAL, INC.	IL	1,564	14	1	13	0
156	MERCHANT HOUSE	CA	188	12	12	0	0
157	IMPERIAL BANCORP	CA	3,131	12	11	1	0
158	RUAN FINANCIAL CORPORATION	IA	720	11	11	0	0
159	RAMAPO FINANCIAL CORPORATION	NJ	308	11	11	0	0
160	S & T BANCORP, INC.	PA	1,136	11	0	10	1
161	SAN PAOLO U.S. HOLDING COMPANY	CA	1,413	10	0	10	0
162	BANK CORPORATION OF GEORGIA	GA	150	10	0	10	0
163	BAR HARBOR BANKSHARES	ME	251	10	0	10	0
164	KEYSTONE HERITAGE GROUP, INC.	PA	539	10	0	10	0
165	FIRST FINANCIAL BANCORPORATION	IA	423	10	0	10	0
166	PEOPLES HERITAGE FINANCIAL GROUP INC	ME	2,366	10	0	10	0
167	UNC HOLDING, INC.	SD	204	10	10	0	0
168	STERLING WEST BANCORP	CA	175	8	8	0	0
169	ALERION CORPORATION	LA	338	8	0	8	0
170	UNITED SECURITY BANCSHARES, INC.	AL	158	7	3	0	4
171	COMM. BANCORP, INC.	PA	315	6	0	0	6
172	PARKWAY BANCORP, INC.	IL	603	6	0	6	0
173	NATIONAL COMMUNITY BANKS, INC.	NJ	4,086	6	6	0	0
174	BANK OF MONTANA SYSTEM	MT	793	5	0	5	0
175	BROWNING BANCORP	UT	175	5	5	0	0
176	FINANCIAL TRUST CORP.	PA	832	5	0	5	0
177	CNB FINANCIAL CORPORATION	PA	263	5	0	5	0
178	IRWIN FINANCIAL CORPORATION	IN	693	5	0	5	0
179	SUMMIT BANCORP, INC	WA	201	5	0	4	1
180	TOWN & COUNTRY BANCORP, INC.	IL	148	5	5	0	0
181	STERLING BANCSHARES, INC.	TX	302	5	0	5	0
182	CITCO BANCSHARES, INC.	TN	177	4	4	0	0
183	SILICON VALLEY BANCSHARES	CA	924	4	4	0	0
184	BOK FINANCIAL CORPORATION	OK	2,884	4	1	4	0
185	INTERNATIONAL BANCSHARES CORPORATION	TX	1,866	4	4	0	0
186	CITIZENS FIRST BANCORP, INC.	NJ	2,472	2	2	0	0
187	UST CORP.	MA	1,993	2	2	0	0
188	PREMIER FINANCIAL SERVICES, INC.	IL	356	2	0	2	0
189	FIRST BUSEY CORPORATION	IL	694	2	0	2	0
190	FIRST BANKING CENTER, INC.	WI	194	2	0	2	0
191	PRO ATHENEUM STIFTUNG		610	2	2	0	0
192	1ST SOURCE CORPORATION	IN	1,444	1	0	1	0
193	UNITED BANK CORPORATION	GA	217	1	0	1	0
194	SUMMIT BANCORPORATION	NJ	4,052	1	1	0	0
195	MARTINUS CORPORATION	MN	51	1	0	1	0
196	WHITAKER BANK CORPORATION OF KENTUCKY	KY	572	1	0	1	0
197	BANKWORCESTER CORPORATION	MA	1,406	1	1	0	0
198	COMERICA TEXAS INCORPORATED	MI	719	1	1	0	0
199	HAMILTON BANCORP, INC.	FL	274	1	1	0	0
200	MARSH INVESTMENTS, N.V.		884	1	1	0	0
201	CPB INC.	HI	1,236	1	1	0	0
202	BARABOO BANCORPORATION, INC. (THE)	WI	225	0	0	0	0
203	FULTON FINANCIAL CORPORATION	PA	2,356	0	0	0	0
204	SECURITY RICHLAND BANCORPORATION	MT	301	0	0	0	0
205	1ST BUSINESS CORPORATION	CA	753	0	0	0	0
206	T R FINANCIAL CORP.	NY	1,870	0	0	0	0
207	OCEAN BANKSHARES, INC.	FL	817	0	0	0	0
208	CONSTELLATION BANCORP	NJ	2,350	0	0	0	0
209	CVB FINANCIAL CORP	CA	649	0	0	0	0
210	REBANK NETHERLANDS ANTILLES, N.V.	FL	1,184	0	0	0	0
211	FIRST EASTERN CORP.	PA	2,134	0	0	0	0
212	CULLEN/FROST BANKERS, INC.	TX	3,498	0	0	0	0
213	STERLING BANCORP	NY	567	0	0	0	0
214	UNITED NATIONAL BANCORP	NJ	728	0	0	0	0
215	LAREDO NATIONAL BANCSHARES, INC.	TX	1,515	0	0	0	0
				10,721,965	5,821,597	2,680,497	2,219,871

Note: Zeroes may be due to rounding.
Source: Consolidated Financial Statements for Bank Holding Companies (FR Y-9C)

Table B.2

25 HOLDING COMPANIES WITH THE MOST DERIVATIVE CONTRACTS
JUNE 30, 1993, NOTIONAL AMOUNTS, $ MILLIONS

RANK	HOLDING COMPANY NAME	STATE	ASSETS	TOTAL DERIVATIVES	TOTAL FUTURES & FORWARDS	TOTAL SWAPS	TOTAL OPTIONS
1	CHEMICAL BANKING CORPORATION	NY	$145,522	$2,117,385	$1,245,500	$554,257	$317,628
2	BANKERS TRUST NEW YORK CORPORATION	NY	83,987	1,769,947	816,740	355,597	597,610
3	CITICORP	NY	216,285	1,762,478	1,207,132	264,811	290,535
4	J.P. MORGAN & CO. INCORPORATED	NY	132,532	1,550,680	572,897	579,219	398,563
5	CHASE MANHATTAN CORPORATION	NY	99,085	1,125,075	666,150	258,086	200,839
6	BANKAMERICA CORPORATION	CA	185,466	899,783	581,034	229,926	88,823
7	FIRST CHICAGO CORPORATION	IL	49,936	452,780	276,790	100,666	75,324
8	CONTINENTAL BANK CORPORATION	IL	22,352	170,052	61,058	52,953	56,041
9	REPUBLIC NEW YORK CORPORATION	NY	36,205	164,979	81,707	45,504	37,768
10	BANK OF NEW YORK COMPANY, INC. THE	NY	41,045	91,434	65,128	12,200	14,106
11	BANK OF BOSTON CORPORATION	MA	32,766	69,479	49,254	9,092	11,133
12	FIRST UNION CORPORATION	NC	71,959	63,794	17,867	11,672	34,255
13	NATIONSBANK CORPORATION	NC	124,385	47,490	12,832	30,574	4,084
14	MELLON BANK CORPORATION	PA	36,209	37,122	22,834	11,552	2,736
15	BANC ONE CORPORATION	OH	75,413	32,289	2,610	29,349	330
16	BANKMONT FINANCIAL CORP.	NY	16,990	32,107	21,293	2,425	8,388
17	NATWEST HOLDINGS INC.	NY	23,681	29,755	7,717	10,225	11,813
18	STATE STREET BOSTON CORPORATION	MA	18,170	23,785	23,082	600	103
19	PNC BANK CORP.	PA	53,317	20,965	786	8,401	11,778
20	MARINE MIDLAND BANKS, INC.	NY	16,736	15,773	7,055	8,718	0
21	WELLS FARGO & COMPANY	CA	51,329	15,353	5,354	2,953	7,045
22	SHAWMUT NATIONAL CORPORATION	CT	25,892	14,929	8,408	814	5,707
23	SIGNET BANKING CORPORATION	VA	12,052	14,011	3,032	2,633	8,346
24	FIRST INTERSTATE BANCORP	CA	49,488	12,964	1,304	8,166	3,494
25	FLEET FINANCIAL GROUP INC	RI	44,871	12,599	6,733	4,861	1,006
	TOP 25 HOLDING COMPANIES			10,547,006	5,764,297	2,595,254	2,187,455
	OTHER 190 HOLDING COMPANIES			174,959	57,300	85,243	32,416
	TOTAL NOTIONAL AMOUNT FOR ALL HOLDING COMPANIES			10,721,965	5,821,597	2,680,497	2,219,871

Note: Table includes data for companies with total assets of $150 million or more, or with more than one subsidiary bank.
Source: Consolidated Financial Statements for Bank Holding Companies (FR Y-9C)

Table B.3

25 HOLDING COMPANIES WITH THE MOST FUTURES & FORWARDS CONTRACTS
JUNE 30, 1993, NOTIONAL AMOUNTS, $ MILLIONS

HOLDING COMPANY NAME	STATE	TOTAL ASSETS	TOTAL FUTURES & FORWARDS	FOREIGN EXCHANGE FUTURES & FORWARDS	INTEREST RATE FUTURES & FORWARDS	OTHER FUTURES & FORWARDS
CHEMICAL BANKING CORPORATION	NY	$145,522	$1,245,500	$619,519	$625,836	$145
CITICORP	NY	216,285	1,207,132	929,342	273,600	4,190
BANKERS TRUST NEW YORK CORPORATION	NY	83,987	816,740	426,282	387,164	3,294
CHASE MANHATTAN CORPORATION	NY	99,085	666,150	467,837	135,965	62,348
BANKAMERICA CORPORATION	CA	185,466	581,034	425,198	155,836	0
J.P. MORGAN & CO. INCORPORATED	NY	132,532	572,897	317,544	239,230	16,123
FIRST CHICAGO CORPORATION	IL	49,936	276,790	190,913	85,758	119
REPUBLIC NEW YORK CORPORATION	NY	36,205	81,707	63,125	13,782	4,800
BANK OF NEW YORK COMPANY, INC. THE	NY	41,045	65,128	46,980	18,100	48
CONTINENTAL BANK CORPORATION	IL	22,352	61,058	21,752	39,119	187
BANK OF BOSTON CORPORATION	MA	32,766	49,254	24,198	24,921	135
STATE STREET BOSTON CORPORATION	MA	18,170	23,082	23,054	28	0
MELLON BANK CORPORATION	PA	36,209	22,834	18,170	4,664	0
BANKMONT FINANCIAL CORP.	NY	16,990	21,293	20,099	1,194	0
FIRST UNION CORPORATION	NC	71,959	17,867	3,668	14,198	0
NATIONSBANK CORPORATION	NC	124,385	12,832	7,500	5,332	0
NORTHERN TRUST CORPORATION	IL	16,289	8,924	8,519	405	0
SHAWMUT NATIONAL CORPORATION	CT	25,892	8,408	8,277	131	0
NATWEST HOLDINGS INC.	NY	23,681	7,717	3,086	4,631	0
MARINE MIDLAND BANKS, INC.	NY	16,736	7,055	80	6,975	0
FLEET FINANCIAL GROUP INC	RI	44,871	6,733	2,383	603	3,747
NORWEST CORPORATION	MN	47,790	6,141	609	5,532	0
WELLS FARGO & COMPANY	CA	51,329	5,354	340	5,014	0
FIRST SECURITY CORPORATION	UT	8,181	5,169	10	5,159	0
WACHOVIA CORPORATION	NC	33,237	3,491	1,349	2,142	0
25 HOLDING COMPANIES			5,780,290	3,629,834	2,055,319	95,137
OTHER 119 HOLDING COMPANIES			41,307	15,862	25,081	364
TOTAL NOTIONAL AMOUNT FOR ALL HOLDING COMPANIES			5,821,597	3,645,696	2,080,400	95,501

Note: Table includes data for companies with total assets of $150 million or more, or with more than one subsidiary bank.
Source: Consolidated Financial Statements for Bank Holding Companies (FR Y-9C)

Table B.3 (continued)

25 HOLDING COMPANIES WITH THE MOST SWAPS CONTRACTS

JUNE 30, 1993, NOTIONAL AMOUNTS, $ MILLIONS

HOLDING COMPANY NAME	STATE	TOTAL ASSETS	TOTAL SWAPS	INTEREST RATE SWAPS	FOREIGN EXCHANGE SWAPS	OTHER SWAPS
J.P. MORGAN & CO. INCORPORATED	NY	$132,532	$579,219	$468,542	$91,799	$18,878
CHEMICAL BANKING CORPORATION	NY	145,522	554,257	532,931	21,113	213
BANKERS TRUST NEW YORK CORPORATION	NY	83,987	355,597	298,572	55,597	1,428
CITICORP	NY	216,285	264,811	225,827	35,683	3,301
CHASE MANHATTAN CORPORATION	NY	99,085	258,086	240,946	15,274	1,865
BANKAMERICA CORPORATION	CA	185,466	229,926	207,179	22,747	0
FIRST CHICAGO CORPORATION	IL	49,936	100,666	90,451	10,172	43
CONTINENTAL BANK CORPORATION	IL	22,352	52,953	52,634	286	33
REPUBLIC NEW YORK CORPORATION	NY	36,205	45,504	13,336	31,826	342
NATIONSBANK CORPORATION	NC	124,385	30,574	30,562	0	12
BANC ONE CORPORATION	OH	75,413	29,349	29,300	49	0
BANK OF NEW YORK COMPANY, INC. THE	NY	41,045	12,200	11,498	703	0
FIRST UNION CORPORATION	NC	71,959	11,672	11,550	122	0
MELLON BANK CORPORATION	PA	36,209	11,552	11,473	78	0
NATWEST HOLDINGS INC.	NY	23,681	10,225	10,223	0	2
BANK OF BOSTON CORPORATION	MA	32,766	9,092	9,035	57	0
MARINE MIDLAND BANKS, INC.	NY	16,736	8,718	8,718	0	0
PNC BANK CORP.	PA	53,317	8,401	8,401	0	0
FIRST INTERSTATE BANCORP	CA	49,488	8,166	8,120	45	1
NATIONAL CITY CORPORATION	OH	28,660	6,175	6,175	0	0
SOCIETY CORPORATION	OH	25,964	5,712	5,712	0	0
HUNTINGTON BANCSHARES, INC.	OH	15,655	5,374	5,374	0	0
FLEET FINANCIAL GROUP INC	RI	44,871	4,861	4,844	17	0
CORESTATES FINANCIAL CORPORATION	PA	23,591	3,840	3,840	0	0
ABN AMRO NORTH AMERICA, INC.	IL	17,284	3,742	3,742	0	0
25 HOLDING COMPANIES			2,610,672	2,298,984	285,569	26,119
OTHER 128 HOLDING COMPANIES			69,825	67,410	2,158	257
TOTAL NOTIONAL AMOUNT FOR ALL HOLDING COMPANIES			2,680,497	2,366,394	287,727	26,376

Note: Table includes data for companies with total assets of $150 million or more, or with more than one subsidiary bank.
Source: Consolidated Financial Statements for Bank Holding Companies (FR Y-9C)

Table B.3 (continued)

25 HOLDING COMPANIES WITH THE MOST OPTIONS CONTRACTS

JUNE 30, 1993, NOTIONAL AMOUNTS, $ MILLIONS

HOLDING COMPANY NAME	STATE	TOTAL ASSETS	TOTAL OPTIONS	INTEREST RATE OPTIONS	FOREIGN EXCHANGE OPTIONS	OTHER OPTIONS
BANKERS TRUST NEW YORK CORPORATION	NY	$83,987	$597,610	$478,002	$95,652	$23,956
J.P. MORGAN & CO. INCORPORATED	NY	132,532	398,563	263,129	109,225	26,209
CHEMICAL BANKING CORPORATION	NY	145,522	317,628	263,624	47,208	6,796
CITICORP	NY	216,285	290,535	183,338	92,005	15,192
CHASE MANHATTAN CORPORATION	NY	99,085	200,839	83,820	72,324	44,696
BANKAMERICA CORPORATION	CA	185,466	88,823	68,209	20,614	0
FIRST CHICAGO CORPORATION	IL	49,936	75,324	45,374	29,645	305
CONTINENTAL BANK CORPORATION	IL	22,352	56,041	40,387	13,920	1,734
REPUBLIC NEW YORK CORPORATION	NY	36,205	37,768	13,970	22,146	1,652
FIRST UNION CORPORATION	NC	71,959	34,255	33,923	332	0
BANK OF NEW YORK COMPANY, INC. THE	NY	41,045	14,106	11,402	2,704	0
NATWEST HOLDINGS INC.	NY	23,681	11,813	11,792	19	2
PNC BANK CORP.	PA	53,317	11,778	11,768	10	0
BANK OF BOSTON CORPORATION	MA	32,766	11,133	8,708	2,425	0
BANKMONT FINANCIAL CORP.	NY	16,990	8,388	3,622	4,766	0
SIGNET BANKING CORPORATION	VA	12,052	8,346	8,344	2	0
WELLS FARGO & COMPANY	CA	51,329	7,045	7,017	28	0
SHAWMUT NATIONAL CORPORATION	CT	25,892	5,707	5,704	0	4
HUNTINGTON BANCSHARES, INC.	OH	15,655	4,190	4,190	0	0
NATIONSBANK CORPORATION	NC	124,385	4,084	2,576	1,508	0
MNC FINANCIAL, INC.	MD	17,208	3,604	3,595	9	0
FIRST INTERSTATE BANCORP	CA	49,488	3,494	3,494	0	0
MELLON BANK CORPORATION	PA	36,209	2,736	1,786	951	0
FIRST SECURITY CORPORATION	UT	8,181	2,494	2,494	0	0
CENTRAL BANCSHARES OF THE SOUTH, INC.	AL	7,018	2,382	2,382	0	0
25 HOLDING COMPANIES			2,198,686	1,562,650	515,491	120,545
OTHER 67 HOLDING COMPANIES			21,185	20,597	520	68
TOTAL NOTIONAL AMOUNT FOR ALL HOLDING COMPANIES			2,219,871	1,583,247	516,011	120,613

Note: Table includes data for companies with total assets of $150 million or more, or with more than one subsidiary bank.
Source: Consolidated Financial Statements for Bank Holding Companies (FR Y-9C)

QUESTION B)3)

Are bank holding company derivatives activities profitable? How important is derivatives-related profit to overall bank holding company profitability?

Public data regarding the profitability of bank holding company derivatives products are not available. Regulatory reports provide information on fee income, interest income and gross trading revenues but do not provide detail on the derivatives component of these revenues. In general, shareholder reports also lack detail regarding derivatives revenues or profitability. The lack of a separate breakout of revenues regarding the derivative component arises from the difficulty of desegregating these products in a definitive manner because of the interrelatedness of various derivative products with the trading and investment strategies and revenues from actual cash instruments. Moreover, to the extent derivative products are linked to an institution's asset liability management strategies, the related income or expense of the derivatives are generally recognized as adjustments to overall interest income or expense.

Even if detail on derivative revenues were available, determining their contribution to an institution's net income is complicated by the necessary but subjective task of allocating the institution's overhead costs for technology, personnel, accounting and information systems, and funding costs. Moreover, that analysis may also be complicated by cross-referrals and support for derivatives products from lending, trading and trust activities.

Most banks involved in derivatives activities have some form of internal accounting and transfer pricing measurement system for assessing the profitability of derivatives activities. As part of the examination process, profitability analyses are reviewed. Areas that appear to be producing abnormally wide swings in revenues or that are producing

a series of losses are closely scrutinized to determine whether appropriate controls and risk limits are in place. Guidelines with regard to reviewing derivative product profitability are outlined in the Trading Activities Manual.

In general, derivatives activities appear to provide fairly consistent or growing revenue streams. Before using a particular derivatives product, institutions generally require that an internal analysis be performed to indicate whether, after taking into account the derivative's risk relative to other banking products, the product improves shareholder value.

C. CONCENTRATION

QUESTION C)1)

What are the pro's and con's related to the concentration of derivatives activities in a handful of large money center bank holding companies?

The concentration of derivatives activities in a few large companies -- and, in particular, the concentration among firms who are market-makers --- tends to increase the risk that the default of a single institution could cause systemic problems. The possibility that market liquidity could be adversely affected by a withdrawal or failure of one or more market makers is a matter of some concern. Credit risk associated with concentration is a concern that is being mitigated, in part, because of recent developments that have encouraged the use of legally enforceable netting arrangements, a heightened emphasis on the monitoring of concentrations of credit risk, and efforts by central banks and others to improve clearing and settlement arrangements of various types.

Moreover, at present it appears that market forces ensure market-making is feasible only for firms that are perceived by the market as being highly creditworthy. These institutions tend to have sophisticated risk management procedures and capital bases large enough to absorb sizable derivative product losses. In addition, the concentration of derivative activities in only a few large institutions facilitates supervision of their activities. Therefore, the failure of one of these institutions as a result of derivative products appears unlikely in the current risk environment.

QUESTION C)2)

For each of the ten largest bank holding company derivatives dealers, indicate the credit exposure related to derivatives as a percentage of the bank holding company capital.

Table C.1 provides consolidated bank holding company credit-equivalent exposures as a percentage of capital for the ten largest dealers as of June 30, 1993. It should be noted that these exposures do not take into account any potential reduction in exposures from master netting agreements or other exposure-reducing efforts. The credit-equivalent exposure (column 5) represents the current replacement cost of contracts with positive market values (column 3) and also the estimated potential credit exposure as calculated under the current risk-based capital standard (column 4). Both of these numbers were derived from the risk-based capital portion of the Y-9C Report.

As shown in the table, the credit-equivalent exposure of the ten largest bank holding companies ranges from 1.5 percent to 2.5 percent of the notional value of total derivative products and from 29 percent to 439 percent of total capital. In comparison, column 8 illustrates that the credit equivalent exposures as a percent of total capital for more traditional bank instruments (i.e. non-derivative instruments such as securities, loans and other off-balance-sheet instruments) ranges from 202 percent to 832 percent.

Table C.1

CREDIT EQUIVALENT EXPOSURE OF DERIVATIVE POSITIONS FOR THE 10 LARGEST CONSOLIDATED BANK HOLDING COMPANIES

June 30, 1993, $ Millions, Ratios in Percent

Holding Company	State	Total Assets (Col. 1)	Notional Amount of Derivatives (Col. 2)	Replacement Cost Credit Exposure (Col. 3)	Estimated Potential Credit Exposure (Col. 4)	Total Credit Equivalent Exposure (Col. 5)
CHEMICAL BANKING CORPORATION	NY	$145,522	$2,117,385	$23,914	$7,913	$31,827
BANKERS TRUST NEW YORK CORPORATION	NY	83,987	1,769,947	22,933	7,900	30,833
CITICORP	NY	216,285	1,762,478	26,636	11,307	37,943
J.P. MORGAN & CO. INCORPORATED	NY	132,532	1,550,680	27,931	10,566	38,497
CHASE MANHATTAN CORPORATION	NY	99,085	1,125,075	16,492	6,180	22,673
BANKAMERICA CORPORATION	CA	185,466	899,783	16,885	5,555	22,440
FIRST CHICAGO CORPORATION	IL	49,936	452,780	7,544	2,578	10,122
CONTINENTAL BANK CORPORATION	IL	22,352	170,052	2,057	449	2,506
REPUBLIC NEW YORK CORPORATION	NY	36,205	164,979	1,728	832	2,560
BANK OF NEW YORK COMPANY, INC. THE	NY	41,045	91,434	1,080	484	1,564

HOLDING COMPANY	Credit Equivalent Exposure as a Percent of: Notional Amount of Derivatives (Col. 6)	Credit Equivalent Exposure as a Percent of: Total Capital (Col. 7)	Credit Exposure of Non-derivative Instruments to Total Capital (Col. 8)
CHEMICAL BANKING CORPORATION	1.50%	212%	621%
BANKERS TRUST NEW YORK CORPORATION	1.74%	439%	202%
CITICORP	2.15%	172%	781%
J.P. MORGAN & CO. INCORPORATED	2.48%	330%	476%
CHASE MANHATTAN CORPORATION	2.02%	196%	605%
BANKAMERICA CORPORATION	2.49%	120%	735%
FIRST CHICAGO CORPORATION	2.24%	164%	602%
CONTINENTAL BANK CORPORATION	1.47%	99%	832%
REPUBLIC NEW YORK CORPORATION	1.55%	69%	309%
BANK OF NEW YORK COMPANY, INC. THE	1.71%	29%	718%

Notes:

1) Replacement cost credit exposure and estimated potential credit exposure excludes exchange-traded contracts with daily margin requirements, individual contracts netted bilaterally through novation, and foreign exchange contracts with original maturities of 14 days or less.

2) Credit exposure in column 8 equals total risk-weighted assets net of credit equivalent exposure for derivatives.

Source: Consolidated Financial Statements for Bank Holding Companies (FR Y-9C)

QUESTION C)3)

Does your agency have defined criteria that must be met before a bank holding company can offer derivative products? Do bank holding companies need to notify your agency prior to becoming a dealer in derivative products?

For bank holding companies and their non-bank subsidiaries, the Board has a formal approval process for new activities and derivative activities (including acting as a "dealer") are considered within that framework. The Board has the authority to determine whether or not particular derivative activities are permissible generally for bank holding companies or to approve specific activities for individual companies. The Board may also impose conditions on the activities. Pursuant to the Bank Holding Company Act of 1956, as amended ("BHC Act"), and the Board's Regulation Y, the Board reviews the public interest factors as well as financial and managerial considerations when acting on an application by a bank holding company to engage in a new activity. An institution must demonstrate its ability to manage the risks related to that activity, and must limit the scope or risk exposure of the new activity to a level commensurate with the institution's expertise and capital adequacy.

Under the BHC Act and the Board's Regulation Y, a bank holding company may not engage in any activity, or own shares of any company engaged in any activity, other than banking or managing or controlling banks, subject to certain exemptions.[5] One of these exemptions permits bank holding companies to engage in any activity, or own shares of any company engaged in any activity, that the Board has determined, either by regulation or Order, to be so closely related to banking or managing or controlling banks as to be a proper

[5]See 12 USC § 1843(a).

incident to banking.[6] In making the "proper incident" determination, the Board shall consider whether the performance by the applicant of the activity can reasonably be expected to produce benefits to the public, such as greater convenience, increased competition, and gains in efficiency that outweigh possible adverse effects. This consideration includes an evaluation of the financial and managerial resources of the applicant, including its subsidiaries, and any company to be acquired, and the effect of the transaction on those resources.

[6]See 12 USC § 1843(c)(8).

D. SPECULATION

QUESTION D)1)

How does your agency define and identify speculation in derivative products? Are there any rules or regulations involving bank holding company speculation activities using derivatives products?

The term "speculation" can be used in a pejorative sense to describe the taking of a large and extremely risky position in a market. In this sense, banking institutions would normally be precluded from taking such positions. More generally, the term speculation is best used to refer to the activities of any participant in a market who is willing to take a view on the direction the market is heading and establishes an open position to profit from market movements in a particular direction, rather than seeking to fully offset an exposure in the same or another market. Such participants are active in most financial markets. Indeed, the activity of such traders often is an important source of liquidity to other market participants, accommodating those who do not wish to allow positions to remain uncovered or who are using the markets for risk management or other hedging purposes.

Subject to prior approval, the Federal Reserve has generally permitted bank holding companies and their nonbank subsidiaries to engage in derivatives transactions incidental to other approved activities in order to hedge exposure arising from those activities. In a small number of cases, institutions have been allowed to enter transactions for purposes other than hedging. State member bank subsidiaries of holding companies are chartered under state law and must have authority to engage in derivatives activities. State banking authorities in a number of states have permitted state-chartered banks to engage in derivative transactions as brokers or agents for their own account, either to generate revenue or hedge existing positions. Member banks may also engage, through separately capitalized subsidiaries, in these activities with the permission of the Federal Reserve.

The Federal Reserve does not have specific regulations regarding state member banks taking positions in derivatives. Rather, the Federal Reserve relies on the supervisory process, including on-site examinations and policy guidance to ensure the safety and soundness of banks engaging in these activities. Directors and senior management are expected to be actively involved in the strategies and policies relating to its derivative activities, including determining the institution's overall appetite for risk taking and the setting of boundaries for acceptable trading activities through the establishment of position limits. These limits, in turn, are expected to be adequately implemented and enforced through a system of internal controls and subject to change pursuant to an appropriate review process.

Accordingly, the assessment of these limits, procedures and internal controls represents an important element of an examination of derivatives and trading activities. One of the objectives of the examination process is to ensure that such limits and controls are designed to ensure that any losses that might result from sudden market movements are within an acceptable range given the institution's capital position and other resources. Internal controls are also evaluated during the examination to ensure that they not only address the actual conduct and verification of a transaction, but also address matters "incidental" to the transaction, such as the effect of the transaction on the overall liquidity of the institution and the assessment of inherent legal and other risks that are not easily quantified.

Beyond specific limits and controls, the risk management process depends on the structure and integrity of the management information system, the quality of management, and the adherence of individuals to established internal procedures. These factors are best evaluated on-site by experienced and competent examiners, rather than through the

promulgation of regulations that, in addition to being burdensome and inappropriate for many institutions, might not necessarily reduce risks. Through the examination process operating weaknesses, when identified, can be addressed in the context of the specific institution.

One area where the Federal Reserve believes that regulatory standards are appropriate involves the issue of capital adequacy. However, here again, the complexity of measuring market risk, combined with the generally satisfactory experience the commercial banking system has had in managing this risk in the past, raises important questions about the costs and benefits of dictating specific standards. Consequently, when developing the structure of the recently issued interest rate risk proposal the banking agencies sought to avoid excessive reporting burden, to focus on institutions taking exceptionally high levels of risk, and to permit, and in some cases require, the use of internal models in measuring exposures. This approach tries to balance the merits of providing specific minimum prudential standards with the difficulties and costs associated with developing and administering them.

QUESTION D)2)

What percentage of bank holding company derivative transactions are related to a) market making functions? b) speculation? c) risk arbitrage?

No statistics are collected dividing derivative transactions into the categories specified in this question. Moreover, any answer to this question would vary depending on the institution, the particular derivatives instrument chosen and the definitions and assumptions made in assigning a transaction to a particular category. However, three broad classes of bank activity can be distinguished. The first activity and the one carried out by the largest number of banks is the use of these instruments, along with non-derivative products, to hedge, take, or alter interest rate, currency, and other risks. Interest rate and currency risks are risks that arise out of normal banking business due to the differing nature of various assets and liabilities. Banks can alter these risks by changing the mix of assets in which they invest, or by using derivative instruments. Whether a bank chooses to use actual securities, such as government bonds, for this purpose or derivative instruments such as swaps or futures, depends on several factors discussed in the response to the next question. To the extent that banks use derivative instruments to take currency or interest rate proprietary positions, almost by definition these positions are for a longer period than the positions that arise out of market making activities. Therefore, the number of those transactions is less than those associated with market making activities.

The second activity, carried out by many regional and money center banks in selected markets, is to meet the needs of the end users of these products, largely corporations and institutional investors, although in some cases the end-user may be a smaller bank engaged in hedging. Banking institutions engaged in this activity are essentially order takers

for such clients, taking no risk and immediately offsetting any exposure through a dealer. For these banks, one would typically find a customer contract matched by a contract with a dealer.

The third activity, conducted mainly by money center banks, is to make markets (act as a dealer in these markets). Larger banks not only take customer orders but assume and manage the resulting exposure. Many of these banks also provide liquidity to the product by acting as market makers, standing ready to quote prices not only to end users but also to other dealers. For these banks, the distribution of transactions between dealers and non-dealers would depend on the exact role of the larger bank in a particular product, the liquidity of the instrument, the pattern of order flows at any particular time, and the nature of the hedges used to offset unwanted positions. For example, in some "customized" and less liquid instruments, such as complex longer-term interest rate swaps, it is not unusual to see a high proportion of contracts with non-dealers. Exposures assumed in such transactions with customers are often hedged by using highly liquid cash instruments such as government bonds, until an offsetting customer transaction arises. For more liquid derivative instruments such as future rate agreements or standardized shorter term swaps, a customer transaction commonly may be hedged by entering into offsetting transactions with other dealers. As liquidity in a product increases, typically the ratio of inter-dealer contracts to non-dealer contracts also increases. It is important to recognize that whenever a dealer bank enters into a transaction with a customer, it assumes a risk position. That position has to be managed. For most dealer banks, the majority of transactions would probably be associated with the taking and managing of market making positions, as described above.

QUESTION D)3)

To what extent do bank holding companies enter into derivatives contracts to hedge or square positions on their own balance sheets?

Derivative products may be used to hedge or square balance sheet positions or to assume positions deemed by the bank to be more favorable to it than those arising out of balance sheet positions. For example, as a result of its balance sheet activities, a bank might find itself long one month interest rate equivalents. It might use derivatives to close or square such a position. Alternatively, the institution might decide that it was advantageous to be long three month interest rate equivalents and use derivatives to create such a position. Accordingly, the extent to which bank holding companies seek to hedge or square positions on their own balance sheets depends on the type of derivative instrument and the individual institution's current risk profile and business strategies. A bank active in derivatives can generally choose among several equivalent instruments in which to take or hedge a position. The choice of the instrument will depend on the desired liquidity, which is a function of the expected frequency of adjustment, the cost of the instrument, which includes its price and any transactions costs and the cost of related hedges, and the firm's access to markets.

QUESTION D)4)

What percentage of bank holding company derivative transactions are entered into with a) other market makers? b) financial versus nonfinancial end-users? c) existing bank customers? d) for the bank's proprietary trading purposes?

Although the evaluation of derivative counterparties is a key component of the on-site examination of an individual bank holding company's derivatives activities, aggregate data on the number of bank holding company derivative transactions that are entered into with various types of counterparties are unavailable. As pointed out in the response to Questions D)2) and D)3) characterizations of derivative activities and counterparties are highly firm and product specific.

Information on the credit equivalent exposures of derivative activities used in the calculation of risk-based capital requirements indicates that 70% of the exposures are related to counterparties that receive a 20% risk weighting, which are primarily depository institutions and certain types of fully collateralized transactions. The concentration of bank holding company derivatives activities among institutions that are generally regarded as "dealers" suggests that a large portion of such transactions could be classified as between dealers or "market-makers". However, others are undoubtedly with banks that are using the transactions for balance sheet hedging purposes or to off-set customer orders. A few would also relate to bank's assuming or closing out "proprietary" positions.

E. SEPARATELY CAPITALIZED SUBSIDIARIES

QUESTION E)1)

What are the pro's and con's of requiring a bank holding company to establish a separately capitalized subsidiary to engage in derivative activities?

The primary reason for requiring banks to conduct certain activities in separately capitalized subsidiaries is to shield the bank from the risk of loss, beyond its investment in the subsidiary, that might result directly from activities that pose more than normal banking risk. Experience to date does not suggest that derivatives activities expose banks to risks of a sufficient order of magnitude that they should be required to establish separately-capitalized subsidiaries to conduct these activities. Derivative products are closely related to the traditional business of banking and provide a means for managing foreign exchange, and interest rate risks -- risks that regularly factor into the international banking business. As a result, banks are familiar with the management of risk in the markets underlying derivative instruments, such as currency and interest rate swaps, options, and forwards. Moreover, derivatives can be used to manage an institution's exposure to currency and interest rate risk that result from its other activities, including customer accommodation.

Requiring separate subsidiaries for the conduct of derivatives activities might hamper the global competitiveness of U.S. banking organizations. One of the principal objectives of the Basle Accord was to create a more "level playing field" in international financial competition. Requiring U.S. banking organizations to conduct derivatives activities only through separately capitalized subsidiaries could disadvantage U.S. banks in the international derivatives market and undermine their long term competitiveness. By requiring the establishment of a separate subsidiary, institutions would incur additional administrative and legal costs related to maintaining a separate organization and would lose the advantage of utilizing available resources of the bank. Many of the synergies inherent in conducting

derivatives activities as part of its lending activities, on-balance sheet trading functions and risk management activities would be compromised or lost, resulting in opportunity and direct costs for the bank.

QUESTION E)2)

In providing derivative products, to what extent does deposit insurance provide bank holding companies with an advantage or disadvantage over nonbank competitors?

Concerns expressed about deposit insurance giving banks a competitive advantage over nonbanks in supplying derivative products arise in the context of other services provided by banks as well. These concerns have several sources. One is that deposit insurance would permit banks to operate, in this case to provide derivative products, with low levels of supporting capital and low borrowing costs from insured deposits. A second and related source of concern is that credit losses incurred by banks on derivative activities might in some cases be covered by federal agencies through a "too-big-to-fail" policy.

There are important factors that mitigate these concerns, however. One is that, in the unlikely event a bank was unable to meet its contractual obligation to a derivatives customer, any losses incurred by the customer are not covered by deposit insurance. Further, FDICIA legislation has restricted substantially the ability of bank regulators to protect uninsured creditors under a "too-big-to-fail" policy. Perhaps most importantly, the adoption of risk-based capital, prompt corrective action, and other capital-strengthening policies have generally caused banks to increase their capital. Under these policies, banks are required to maintain a level of capital commensurate with the risk exposure on their activities, including derivative activities. Current capital rules, coupled with increased and risk-based deposit insurance premiums, reduce and may eliminate any capital or funding cost advantage that banks would otherwise have over nonbanks in providing derivative products. In addition, a banking institution's credit rating, which depends on its condition, has been an important determinant of the bank's ability to compete in the derivatives market.

Responses to Questions on Financial Derivatives

Posed by

Congressman Henry B. Gonzalez
Chairman, Committee on Banking, Finance, and Urban Affairs
U.S. House of Representatives

November 24, 1993

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A. SEPARATELY CAPITALIZED SUBSIDIARIES

QUESTION A)1)

Does the Federal Reserve currently encourage or discourage bank holding companies from setting up separately capitalized subsidiaries to engage in derivatives-related activities? Over the past several years, how many bank holding companies applied to establish separately capitalized subsidiaries to engage in derivatives-related activities? Has the Federal Reserve acted on those applications? Please explain the reasons the Federal Reserve has approved or denied each application. Has the Federal Reserve encouraged banks to withdraw such applications?

The Board has neither encouraged nor discouraged bank holding companies from establishing separately capitalized subsidiaries to engage in derivatives activities. Many bank holding companies engage in derivatives-related activities through separately incorporated and separately capitalized subsidiaries. These nonbanking subsidiaries engage in a variety of derivatives-related activities. These activities include acting as a futures commission merchant in the execution and clearance of derivatives of financial commodities (such as foreign exchange, bullion, government securities, and money market instruments), and of non-financial commodities (such as agricultural, energy, and non-precious metal commodities); providing investment advice with respect to such derivatives; and providing financial and contractual advice on swaps, caps, floors, collars, and similar transactions relating to interest rates and currency exchange rates.

The Board also has permitted seven bank holding companies to act through subsidiaries in taking principal positions in interest rate and currency swaps and swap-derivative transactions. These applications generally involve foreign banking organizations; domestic bank holding companies that conduct such activities typically do so through their bank subsidiaries rather than through their nonbanking subsidiaries. The Board also has allowed four bank holding companies to engage through subsidiaries in trading derivatives products (e.g., foreign exchange derivatives, and derivatives of bank-eligible securities and money market instruments) for their own accounts for purposes other than hedging.

QUESTION A)2)

How does a bank holding company's credit rating affect its ability to provide derivatives products to its customers? How does a bank holding company's credit rating affect its ability to perform market making functions in derivatives products?

Creditworthiness is an essential element for successfully offering derivatives products to customers and competing as a market maker in derivatives markets. The credit risk management function of both dealers and end-users involves a thorough credit analysis of counterparties prior to entering into a derivatives transaction. That analysis generally includes the consideration of credit ratings available from the rating agencies. High counterparty credit quality is particularly important for institutions participating in the over-the-counter (OTC) market. OTC derivatives transactions are generally bilateral in nature and commonly have relatively long performance periods that can lead to significant counterparty exposure. Consequently, market forces effectively limit participation in the highly competitive OTC markets to financially strong institutions with high credit quality.

Institutions routinely reject derivative transactions with counterparties that have unacceptable credit quality. In addition, institutions generally reduce the volume and maturity of transactions they conduct with those counterparties whose financial position weakens or who receive a downgraded credit rating. Institutions may also require margin or collateral from these counterparties to mitigate credit risk.

B. OVER THE COUNTER (OTC) VERSUS ORGANIZED EXCHANGE

QUESTION B)1

What percentage of the bank holding company derivative transactions are arranged over-the-counter (OTC) as opposed to arranged through an organized exchange? What percentage of bank holding company OTC transactions are between market-makers versus between market-makers and their customers?

No comprehensive data are available on the amount of derivative transactions arranged through OTC markets versus organized exchanges. However, available regulatory Call Report data may provide a partial indication of the relative notional amounts of certain OTC instruments in comparison to some common exchange traded instruments. Summary information on the notional amounts of swaps, futures/forwards and written and purchased options are currently reported in regulatory Call Reports. These categories are further divided into three sub-categories: interest rate, foreign exchange, and commodity and equity. Swap contracts in each of these sub-categories are traded OTC. These swap contracts had a total notional amount for all reporting bank holding companies of $2.7 trillion as of June 30, 1993 or 25 percent of total reported bank holding company derivatives[1]. The remaining Call Report categories (futures/forwards and written and purchased options) contain an unknown mix of exchange versus OTC traded contracts, but are thought to consist of proportionally more OTC instruments.

Aggregate data on the number of bank holding company derivative transactions that are entered into with various types of counterparties are unavailable. Characterizations of derivative activities are highly company and product specific. As pointed

[1]Notional amounts represent the principal amounts of the underlying asset or assets to which the values of the derivative contracts are indexed. They are the hypothetical amounts used to calculate contract cash flows and are generally never actually paid or received. Accordingly, the notional value of a derivatives contract is not a useful measure of credit exposure. That exposure generally amounts to only a small fraction, say two to three percent, of notional value.

out in the October 26 response to Question D)4), the evaluation of derivative counterparties is a key component of the on-site examination of an individual bank holding company's derivatives activities.

QUESTION B)2)

What are the differences in the markets, and what special supervisory issues arise as a result of the differences in the markets?

There are several fundamental differences between the exchange and OTC derivative markets. Exchange-traded contracts are standardized as to maturity, contract size, and delivery terms, whereas OTC contracts are custom tailored to the client's needs and often specify commodities or instruments and maturities that are not offered on any exchange. OTC markets involve customized derivative products in which the parties negotiate all details of the transactions or agree to certain simplifying market conventions. The terms are usually negotiated over the telephone and finalized in writing. OTC transactions occur among market-makers and between market-makers and their customers.

Another important distinction in the U.S. between exchange-traded and OTC contracts is that the exchange or a related clearing organization "guarantees" performance on the contract by interposing itself as the buyer to every seller and the seller to every buyer. The clearing organization typically seeks to ensure its own financial integrity through creation of a risk management system, whose elements include membership requirements, daily marking-to-market of contract values and some form of margin requirements and loss sharing arrangements among members.

In contrast, market participants in the OTC market select their counterparty bilaterally based on credit-worthiness and other factors in addition to price. If necessary, the parties to a derivatives contract in the OTC market make their own arrangements for assuring the contract's performance. These arrangements are especially important because the bilateral nature of OTC derivative transactions, along with their generally longer performance period (owing to the absence of the standardized margin requirements and daily settlements) can lead

to significant counterparty credit exposure. Such arrangements can include use of legally enforceable netting agreements and to some extent the use of collateral. The most common OTC derivative instruments are:

- Foreign Exchange Contracts: Forward Contracts, Options, and Currency Swaps.
- Interest Rate Contracts: Forward Rate Agreements (FRAs), Interest Rate Swaps, and Interest Rate Caps/Floors/Collars.
- Commodity Contracts: Precious Metals and Oil Swaps.
- Equity Contracts: Equity-Indexed Options and Swaps.

The primary supervisory consideration in evaluating derivatives related to OTC and exchange markets is the relatively greater potential credit risk related to OTC derivative contracts. During the examination process, OTC derivatives transactions generally receive greater scrutiny than exchange traded contracts. An institution's overall credit analysis process is evaluated including policies with regard to collateral, exposure limits to individual borrowers and on concentrations of credit risk. Because OTC derivatives transactions are tailored to meet the specific requirements of an end-user, these transactions tend to be less uniform and more complex than exchange traded instruments. Consequently, an institution's ability to manage the market, operational, legal and liquidity risks arising from OTC transactions also receives added attention.

QUESTION B)3)

To what extent does your agency coordinate/cooperate with exchange officials associated with bank holding company exchange related activities?

Federal Reserve staff maintain regular contacts, both formal and informal, with officials of exchanges and clearing organizations that have bank holding company subsidiaries or affiliates as part of their membership. Issues of mutual concern regarding market regulation and surveillance are raised and discussed during these contacts.

More generally, the Federal Reserve has contact with exchange officials on various other matters. For example, because of the Federal Reserve's margin rules, derivative products that have securities components must be analyzed for appropriate placement in the framework of the margin regulations. Consequently, exchanges regulated by the CFTC or the SEC often ask for Board staff comments on pending issues. In addition, some of the Federal Reserve contacts with exchange officials take place in formal and informal coordination groups to discuss topics of mutual interest relating to the soundness and stability of markets.

QUESTION B)4)

To what extent does your agency coordinate/cooperate with the Commodities Futures Trading Commission (CFTC) and the Securities Exchange Commission (SEC) related to bank holding company derivative activities?

Federal Reserve staff and the staff of both the CFTC and SEC maintain regular and informal contact about market and supervisory issues of common concern including issues that affect bank holding company derivative activities. For example, research in connection with bank holding company applications to engage in derivative activities on specific commodity exchanges and specific products requires coordination between these agencies.

Examples of coordination with the SEC include the Federal Reserve's use of SEC FOCUS reports in monitoring Section 20 subsidiaries of bank holding companies, and the Federal Reserve's use of SEC "haircuts" in computing required capital. These coordinating efforts eliminate the need for separate reports and different bases for computations.

An example of coordination with the CFTC includes assistance in its study regarding the OTC derivatives market. More general examples of coordinating efforts with the CFTC, though not involving bank holding company derivative activities, involve amendments to certain securities margin requirements for clearing agencies regulated by the CFTC. The Federal Reserve, CFTC and SEC have also worked cooperatively on cross-margining issues.

The staff of the Treasury, SEC, CFTC and Federal Reserve meet informally before each quarterly expiration of futures contracts to assess the potential for disorder in the market and to coordinate any response. As part of this surveillance effort, market participants that have large positions are reviewed, including banking institutions. In addition, the interagency working group for Treasury market surveillance, composed of the Federal Reserve

Bank of New York, the Board of Governors, the Treasury, the SEC, and the CFTC, also conducts regular biweekly telephone conference calls, and when necessary daily calls, and meets quarterly. This group discusses derivatives activity in so far as it affects the Treasury market. Also, Federal Reserve staff receives summary information on banks' activities in the futures markets and discusses futures markets developments with CFTC staff as conditions warrant.

QUESTION B)5)

Please identify exchange-related clearing organizations, their function and bank holding company membership in clearing organizations. Who performs the exchange or clearing organization function in the OTC market?

Currently, in the United States there are 11 exchanges that trade futures contracts served by 9 clearing organizations as well as 5 exchanges (and the NASD) that trade options contracts served by one clearing organization. These clearing organizations include the Board of Trade Clearing Corporation; the clearing divisions of the Chicago Mercantile Exchange, the New York Mercantile Exchange, and the Minneapolis Grain Exchange; the Comex Clearing Association; the Commodity Clearing Corporation; the CSC Clearing Corporation; the Intermarket Clearing Corporation; the Kansas City Board of Trade Clearing Corporation; and the Options Clearing Corporation.

Generally, clearing organizations match trade data, report the matched trades to participants, and guarantee the performance of contract obligations. Not all clearing organizations provide all of these services. For example, some clearing organizations may receive pre-matched trade data from exchanges.

To guarantee trades, clearing organizations typically become the central counterparty to all trades by interposing themselves between the original trading counterparties. That is, they become the buyer to every seller and the seller to every buyer. By interposing themselves as a party to every trade, clearing organizations assume the risk that one of the parties to a trade may not perform on the trade obligation. Clearing organizations typically seek to manage this risk and ensure their financial integrity through creation of a risk management system. Such systems generally include membership standards, margin systems, collateral and capital requirements, and loss sharing arrangements.

Different clearing organizations use different combinations of techniques for managing risk or allocating losses among members.

In general, transactions in the OTC derivatives markets are negotiated, reconciled, and settled on a bilateral basis between the relevant counterparties. As no third party clearing corporation is interposed, the original trading counterparties remain responsible for all clearing and settlement functions and risks. To manage this risk, market participants typically establish limits by counterparty. For example, banking organizations generally incorporate settlement risk limits into counterparty credit lines in major markets such as the foreign exchange markets.

U.S. clearing organizations, for exchange-listed futures and option contracts have provided the following information on members that are domestic banks, foreign banks, or subsidiaries or affiliates of these banks:

Board of Trade Clearing Corporation

BA Futures, Inc.
BT Futures Corporation
CB Clearing, Inc.
CM&M Futures, Inc.
CS First Boston Corporation
Chase Manhattan Futures Corp.
Chemical Futures & Options
Citicorp Futures Corporation
Credit Agricole Futures, Inc.
Credit Lyonnais Rouse (USA) Ltd.
FIMAT Futures USA, Inc.
First Chicago Futures, Inc.
Fuji Securities, Inc.
Greenwich Capital Markets
Harris Futures Corporation
Indosuez Carr Futures, Inc.
J.P. Morgan Futures, Inc.
Aubrey G. Lanston & Co., Inc.
Mitsubishi Financial Futures, Inc.
Nationsbank-CRT Services, Inc.
Natwest Futures, Inc.

Northern Futures Corporation
Paine Webber Incorporated
SBCI Futures, Inc.
Sakura Dellsher, Inc.
Sanwa-BGK Futures, Inc.

Chicago Mercantile Exchange

Aubrey Lanston
BA Futures
Barclays De Zoete Wedd U.S. Holdings, Inc.
Bank of Tokyo, LTD
BT Futures
Commerzbank, AG
The Chase Manhattan Corporation
Chemical Banking Corporation
Citicorp Banking Corporation
CM&M Group, Inc.
Credit Agricole
Credit Lyonnais
Dai-Ichi Kangyo Bank, Limited
FIMAT International
CS First Boston USA, Inc.
The First National Bank of Chicago
Fuji Capital Holdings Inc.
Greenwich Capital Holdings, Inc.
Harris Futures Inc.
Indosuez Carr
J.P. Morgan & Company, Incorporated
The Mitsubishi Bank, LTD.
Mitsui T&B Futures, Inc.
Nationsbank Corporation
National Westminster Bank PLC
Northern Trust Corporation
Republic New York Corporation
Sakura Dellsher
Sanwa-BGK Securities Co., L.P.
Swiss Bank Corporation

Comex Clearing Association, Inc.

Nationsbanc-CRT Services, Inc.
Credit Lyonnais Rouse (USA), Ltd.
Mase Westpac, Inc.
Standard Chartered Bank
J.P. Morgan Futures, Inc.
Quantum Financial Services, Inc.
Republic Clearing Corporation

Commodity Clearing Corp.
Nationsbank/CRT Investment Services

Kansas City Board of Trade Clearing Corp.
Quantum Financial Service

New York Mercantile Exchange
Chase Futures Corp.
Citicorp Commodities Corp.
J.P. Morgan Futures Inc.
Nationsbank-CRT Services Inc.
Paribas Futures Inc.
Sumitomo Corporation Futures, Inc.
Quantum Financial Services Inc.

Options Clearing Corporation
NB Clearing Corp.
Chemical Futures & Options
BT Securities Corp.
Newbridge Securities
Nationsbanc-CRT Services, Inc.
Wachovia Securities
Burns Fry Limited
First Chicago Futures
Brown & Company Securities Inc.
Swiss American Securities Inc.
Commerzbank Capital Markets Corp.
Execution Services
Scotiamcleod Inc.
Quantum Securities
First Boston Corp.
Indosuez Carr Futures
UBS Securities
Green Line Investor Services
SBC Derivatives
SBCI Swiss Bank Corp.
Societe Generale Options
Mitsui T&B Futures Inc.
Societe Generale Securities Corp.
Weis Peck & Greer
C.J. Lawrence, Inc.
Mabon Securities Corp.

Levesque Beaubien
Gordon Capital
Wood Gundy Corp.
Nesbitt Thomson
RBC Dominion Securities
O'Connor & Associates
Northbrook Securities Limited

Intermarket Clearing Corporation

NationsBank CRT Services, Inc.
Societe Generale Options
Mitsui T&B
O'Connor & Associates

CSC Clearing Corporation

Citicorp Commodities

QUESTION B)6)

How do the parties to a derivatives contract ensure contract performance in the OTC market?

As with other bilateral, credit-based financial contracts such as a traditional commercial loan, the best method of ensuring performance of an OTC derivatives contract is careful evaluation of the counterparty's credit-worthiness prior to contract commitment. Additionally, collateral arrangements and other types of credit enhancements typically used in connection with lending transactions are sometimes used with OTC derivatives contracts as well.

In the event of a default on an individual OTC derivative contract, enforcement of such a contract generally would not differ significantly from the enforcement of other financial contracts that result in exposure to a defaulting counterparty, such as loan contracts. Under most standard documentation for OTC derivatives contracts, the non-defaulting counterparty would be able to "close-out" the contract with the defaulting counterparty and to demand payment equal to the positive replacement value of the contract. The "close-out" provisions typically used in many standardized OTC derivatives documentation is similar to the default acceleration clauses contained in many commercial loan agreements. Under such clauses, all future expected payments are accelerated and reduced to a single sum owed.

Where a number of OTC derivatives contracts have been undertaken with a counterparty, such contracts usually are covered under a single master agreement providing for netting of payments due and owed under the individual transactions covered. Under a master agreement, contracts with a positive replacement value would be offset against those with a negative replacement value, often significantly reducing overall exposure to the defaulting counterparty.

C. TRUSTS

QUESTION C)1)

How many derivatives products (quantity and notional value) do dealer bank holding companies sell to their existing discretionary trust customers? Nondiscretionary trust customers? What is the income from those transactions?

As discussed in greater detail in response to Question C)2), the circumstances under which it is considered permissible for a bank or its affiliate to receive any fees for purchasing a derivative on behalf of a trust customer or to engage directly in an OTC derivative transactions with a trust customer are very limited. Under appropriate circumstances, it is permissible for a fiduciary to purchase a derivative on behalf of a trust customer from an unaffiliated entity, or to arrange for a trust customer to engage in a derivative transaction with an unaffiliated entity. This latter activity has been very limited, and generally takes place in connection with the accounts of more sophisticated institutional trust fiduciary customers that have both a need for and understanding of derivative product investment strategies.

Compliance with trust law is an area that is addressed in the on-site examination of the trust activities of a bank or bank holding company. The Federal Reserve does not, however, maintain statistical information concerning such transactions.

QUESTION C)2)

Are there any rules governing the sale of derivative products to a bank's discretionary or nondiscretionary trust customers?

Various Federal and state laws and regulations hold trustees and other fiduciaries accountable for the quality and selection of assets purchased for their fiduciary customers' accounts. The governing instrument, which establishes each account relationship, is the focal point in stipulating the investment responsibilities and duties of the administering fiduciary to the various parties involved. While these instruments are contracts between the fiduciary and the grantor, in many instances they are subject to and can be enforced under a variety of federal and local laws. The common law of trusts, state fiduciary laws, and federal laws such as ERISA and the Internal Revenue Code are often called upon to augment or guide the terms of the instrument governing a trust or fiduciary account.

Regulatory agencies such as the SEC and the federal banking agencies also have rules, regulations, or interpretations that are applicable to fiduciary purchases of derivative products. The Federal Reserve has issued two supervisory letters addressing the use of derivatives products in connection with fiduciary accounts, SR 83-02 and 83-39. These letters provide guidance in evaluating investment strategies involving derivatives products to ensure that such strategies meet the standards of prudence required of fiduciaries exercising discretionary investment authority.

Additionally, there are potential conflicts of interest where a fiduciary purchases derivatives products for a trust customer from its bank or an affiliate of its bank, or where the bank or its affiliate engages in a derivatives product transaction with a trust customer. These conflicts arise whenever the fiduciary is able to exercise sufficient discretion to enable it to benefit, either directly or indirectly, from the transaction, either by exercising investment

discretion or by exercising discretion to choose the party to execute or the party to enter into a transaction directed by the customer.

An interpretive letter published by the Federal Reserve (Federal Reserve Regulatory Service ¶3-477.11) discusses the position of the Federal Reserve on such conflicts with respect to the use of the services of an affiliated broker/dealer for fiduciary accounts. The letter states that other than the normal fee connected with the administration of a fiduciary account, the receipt of fees for transactions on behalf of accounts where the fiduciary exercises discretion (either investment discretion or discretion to choose the broker through which a transaction is executed) is generally considered to be impermissible self-dealing, unless it is authorized by local law, the account agreement, or through the consent of the appropriate account parties. The letter further indicates, however, that such additional fees should not be accepted in connection with a fiduciary account unless specific authorization is obtained from the trust customer. Even where such authorizations have been obtained, the letter cautions that the bank must have additional safeguards in place to prevent potential abuses.

The standards discussed in the letter are equally applicable to OTC derivatives transactions where the bank or its affiliate would receive a benefit by engaging in such a transaction. Such transactions would be considered permissible only in those very limited instances where specific approvals have been obtained or where the fiduciary has no discretion of any kind with respect to the choice of transactions or counterparty and is directed by the trust customer to engage in a transaction with the bank or a bank affiliate as counterparty.

QUESTION C)3)

In your opinion, is it a conflict of interest for a bank to sell derivatives products to its discretionary or nondiscretionary trust customers?

As discussed in detail in response to Question C)2), there is a potential conflict of interest for a bank acting as a fiduciary to purchase derivatives products from the bank or its affiliate on behalf of or with a trust account in instances where the fiduciary exercises either investment discretion or discretion to choose the party to execute or the party to enter into a transaction directed by the trust customer.

As a general matter, conflicts of interest are an important focus of the trust examination process. During an examination, potential conflicts of interest are thoroughly reviewed and conflicts evaluated as one of the components of the trust rating of an institution.

D. FOREIGN BANKS

QUESTION D)1)

To what extent do foreign banks act as a dealer in derivatives products in the U.S.?

QUESTION D)2)

Do agencies and branches of foreign banks act as dealers of derivative products?

Major foreign banks are important participants in the derivatives markets in virtually all of the world's trading centers. These products are used to service global corporate customers as well as to hedge balance sheet exposures and enhance profitability. Foreign banks engage in a wide variety of derivatives activities on a global basis, with a certain amount of this business being conducted in the U.S. markets. Transactions by major foreign banks with U.S customers may take place through an office in their home country, or through their U.S. domiciled subsidiaries, branches or agencies, depending on whether such activities are consistent with the entity's charter.

Data regarding the extent to which foreign banks act as dealers in the U.S. through their home offices are not available. Data are available on the notional amount of derivative products booked at U.S. subsidiaries of foreign banks and by state and Federal branches and agencies of foreign banks. As indicated in the October 26 response, a "dealer" may be defined as an institution that takes on principal risk and actively provides market liquidity through price quotes both to customers and other dealers. Although there is no official designation of a "derivatives dealer," companies with the largest notional amount of derivatives might be viewed as derivatives dealers.

Of the 25 U.S. holding companies that reported the largest amount of derivatives contracts, the top ten to fifteen bank holding companies could be viewed as the principal dealers among U.S. banking institutions (see Table D.1). Of those top 10 to 15 holding

companies, none are foreign owned[2]. Of these top 25 companies, only Bankmont, Natwest and Marine Midland (ranked number 16, 17, and 20 respectively) are U.S. subsidiaries of foreign entities.

Branches and agencies are one of the vehicles used by foreign banking institutions to conduct derivatives business within the United States. Branches and agencies deal in a variety of derivative products and often act as market-makers, especially in products tied to their home country currency or in other products in which the foreign bank conducts a global business. As depicted in the attached Table D.2, the 25 branches or agencies with the largest derivatives holdings held notional derivative amounts ranging between $25 and $196 billion. These holdings are comparable to the holdings of the bank holding companies ranked in the top 8 to 17 as depicted in Table D.1. Many of these branches and agencies could be considered principal derivatives dealers but have significantly smaller holdings booked at the U.S. branches and agencies than the top 5 bank holding company dealers.

[2]This list provides consolidated holding company figures and therefore does not contain Mitsui Trust Bank U.S.A., which is a state, non-member bank that is not affiliated with a U.S. bank holding company. Mitsui is a U.S. subsidiary of a Japanese bank and reported a total notional value of derivatives of $52 billion as of June 30, 1993, which would place it in the top 13 of these organizations.

Table D.1

25 Holding Companies with the Most Derivatives Contracts
(June 30, 1993, Notional Amounts, $ Millions)

RANK	HOLDING COMPANY NAME	STATE	TOTAL DERIVATIVES	TOTAL FUTURES & FORWARDS	TOTAL SWAPS	TOTAL OPTIONS
1	CHEMICAL BANKING CORP.	NY	$2,117,385	$1,245,500	$554,257	$317,628
2	BANKERS TRUST NEW YORK CORP	NY	1,769,947	816,740	355,597	597,610
3	CITICORP	NY	1,762,478	1,207,132	264,811	290,535
4	J.P. MORGAN & CO. INC.	NY	1,550,680	572,897	579,219	398,563
5	CHASE MANHATTAN CORP.	NY	1,125,075	666,150	258,086	200,839
6	BANKAMERICA CORP.	CA	899,783	581,034	229,926	88,823
7	FIRST CHICAGO CORP.	IL	452,780	276,790	100,666	75,324
8	CONTINENTAL BANK CORP.	IL	170,052	61,058	52,953	56,041
9	REPUBLIC NEW YORK CORP.	NY	164,979	81,707	45,504	37,768
10	BANK OF NEW YORK CO., INC	NY	91,434	65,128	12,200	14,106
11	BANK OF BOSTON CORP.	MA	69,479	49,254	9,092	11,133
12	FIRST UNION CORP.	NC	63,794	17,867	11,672	34,255
13	NATIONSBANK CORP.	NC	47,490	12,832	30,574	4,084
14	MELLON BANK CORP.	PA	37,122	22,834	11,552	2,736
15	BANC ONE CORP.	OH	32,289	2,610	29,349	330
* 16	BANKMONT FINANCIAL CORP.	NY	32,107	21,293	2,425	8,388
* 17	NATWEST HOLDINGS INC.	NY	29,755	7,717	10,225	11,813
18	STATE STREET BOSTON CORP.	MA	23,785	23,082	600	103
19	PNC BANK CORP.	PA	20,965	786	8,401	11,778
* 20	MARINE MIDLAND BANKS, INC.	NY	15,773	7,055	8,718	0
21	WELLS FARGO & COMPANY	CA	15,353	5,354	2,953	7,045
22	SHAWMUT NATIONAL CORP.	CT	14,929	8,408	814	5,707
23	SIGNET BANKING CORP.	VA	14,011	3,032	2,633	8,346
24	FIRST INTERSTATE BANCORP	CA	12,964	1,304	8,166	3,494
25	FLEET FINANCIAL GROUP INC	RI	12,599	6,733	4,861	1,006
	Top 25 Holding Companies		$10,547,006	$5,764,297	$2,595,254	$2,187,455
	Other 190 Holding Companies		$174,959	$57,300	$85,243	$32,416
	Total Notional Amount for All Holding Companies		$10,721,965	$5,821,597	$2,680,497	$2,219,871

* Companies with over 50% foreign ownership
Note: Table includes data for companies with total assets of $150 million or more, or with more than one subsidiary bank.
Source: Consolidated Financial Statements for Bank Holding Companies (FR Y-9C)

Table D.2

State & Federal U.S. Branches and Agencies of Foreign Banks

(June 30, 1993 data, Notional Amounts, $ in Millions)

RANK	BANK NAME	TOTAL DERIVATIVES	TOTAL FORWARDS & FUTURES	TOTAL SWAPS	TOTAL OPTIONS
1	INDUSTRIAL BANK OF JAPAN, LTD.	$196,181.9	$92,747.9	$73,108.5	$30,325.5
2	MITSUBISHI BANK, LTD.	164,622.4	118,515.2	44,192.3	1,914.9
3	HSBC HOLDINGS PLC	155,039.6	76,906.7	72,427.0	5,705.9
4	CREDIT LYONNAIS	148,092.3	9,780.1	83,376.8	54,935.4
5	FUJI BANK LIMITED	138,953.9	10,726.0	121,148.2	7,079.7
6	TOKAI BANK, LIMITED	137,565.6	23,024.3	113,128.3	1,413.0
7	SANWA BANK LIMITED	123,434.9	4,256.1	83,597.2	35,581.6
8	WESTPAC BANKING CORP.	89,490.4	25,915.1	47,574.9	16,000.4
9	YASUDA TRUST AND BANKING CO	87,326.6	60,866.1	24,800.5	1,660.0
10	SWISS BANK CORP.	84,359.9	34,296.9	9,263.8	40,799.2
11	COMPAGNIE SUEZ	65,342.6	12,229.5	40,786.4	12,326.6
12	DEUTSCHE BANK AKTIENGESELLSCHAFT	64,394.8	8,220.0	55,754.0	420.8
13	SOCIETE GENERALE	61,815.4	18,075.0	42,282.3	1,458.1
14	SUMITOMO TRUST & BANKING CO., LTD.	57,977.2	45,553.0	11,832.0	591.5
15	BANK OF TOKYO, LTD.	53,822.8	2,971.4	36,377.2	14,474.3
16	SUMITOMO BANK, LTD.	49,730.3	4,355.5	40,905.5	4,469.3
17	CANADIAN IMPERIAL BANK OF COMMERC	45,341.8	36,667.4	8,544.4	130.0
18	ROYAL BANK OF CANADA	42,019.7	20,928.4	14,011.3	7,079.0
19	TORONTO-DOMINION BANK	35,014.6	8,249.0	22,084.5	4,680.2
20	MITSUI TRUST AND BANKING CO., LTD.	34,927.4	5,327.0	27,900.4	1,700.0
21	UNION BANK OF SWITZERLAND	34,188.7	24,973.4	6,673.7	2,541.6
22	NIPPON CREDIT BANK, LTD.	32,766.5	15,270.5	13,583.3	3,912.6
23	SAKURA BANK LTD.	32,694.4	5,319.0	17,320.3	10,055.1
24	A.B.N. - STICHTING	31,596.6	16,263.8	13,109.9	2,222.9
25	MITSUBISHI TRUST AND BANKING CORP.	29,114.4	4,252.8	23,136.9	1,724.7
	Subtotal for Top 25	$1,99[illegible]14.6	$685,690.1	$1,046,919.7	$263,202.4
	Subtotal for All Derivatives Users (N = 164)	$2,316,403.5	$796,301.3	$1,226,645.2	$293,455.9
	Grand Total (N = 272)	$2,316,403.5	$796,301.3	$1,226,645.2	$293,455.9

Note: U.S. branches and agencies consolidated by parent company.

Source: Report of Assets and Liabilities of U.S. Branches and Agencies of Foreign Banks (FFIEC 002)

QUESTION D)3)

How important are foreign banks to the derivative products market in the U.S.?

As indicated in the responses to Questions D)1) and D)2), the derivative business is global in scope. The same products are traded in markets around the world, and with today's technology, U.S. based users and providers of derivatives products can access or deliver those products in a number of geographic locations. For this reason it is difficult to differentiate a "U.S. market" for derivatives. In this global market, as has been stated above, a number of foreign banks are major participants in derivatives activities, both as market makers and users. Because of the importance of the U.S. dollar, the openness of U.S. financial markets, and other reasons, New York City has become a major center from which most participants including foreign banks have chosen to conduct a portion of their global business. In this sense, foreign banks can be considered to be very important to derivatives activities that take place within the United States.

QUESTION D)4)

Is there adequate coordination with foreign bank regulators in the derivatives area?

Derivatives activities are an integral part of the business of multinational banks. As with all areas of international banking, coordination and cooperation among the bank supervisors from the major countries is considered to be an important element in effective supervision. Cooperative efforts in the supervision of derivatives have a number of different aspects. Actions have been taken internationally by bank supervisors to address the risk posed by derivatives activities in assessing the capital adequacy of banks. The Basle Committee on Banking Supervision harmonized the capital treatment of the credit risk component of derivatives activities in the risk-based capital standards which were issued in 1988 and became fully implemented at year end 1992. In addition, the Basle Committee has developed and circulated for comment proposals concerning the appropriate treatment of interest rate and other market risks.

The Basle Committee has also placed emphasis on making certain that banks that operate internationally are subject to consolidated supervision, and on assuring cooperation and contact between home and host country supervisors. In June 1992, the Basle Committee issued minimum standards that should serve as a guide to supervisors in these efforts. Consolidated supervision is especially important in the area of derivatives given the global nature of the business and the relative ease with which business can be moved from one geographic location to another. The necessity of consolidated supervision and close and continuous cooperation and consultation among home and host country supervisors in the area of derivatives is well recognized by the members of the Basle Committee, and supervisors from other countries whose banks are significantly involved in these activities.

E. TRADING ACCOUNTS AND CHINESE WALLS

QUESTION E)1)

For the top ten bank holding company derivatives dealers for the past five years, please provide trading assets and trading income.

Table E.1 presents trading account assets and trading income for the 10 bank holding companies with the largest outstanding notional balances of derivatives contracts. In aggregate, trading account assets for these companies increased steadily from 1989 through the second quarter of 1993. The top panel of table E.1 shows that trading account assets increased from $39 billion to $119 billion over that time period. As shown in the bottom panel of the table, aggregate annual trading account income for these companies increased steadily from $7 billion in 1989 to $12.2 billion in 1992. During the first half of 1993, these companies recorded over $8 billion in trading income.

Table E.1

Trading Account Assets and Income

10 Largest Bank Holding Company Derivative Dealers

($ in Millions)

Trading Assets

	1989	1990	1991	1992	93Q2
Bankers Trust	12,202	17,732	23,580	29,908	39,972
J.P. Morgan	10,760	15,653	19,219	26,178	34,376
Citicorp	9,018	7,518	12,064	17,085	19,097
Chemical	519	855	7,065 (1)	4,496	8,332
BankAmerica	578	843	2,809	3,474	5,783
Chase	3,440	2,169	2,860	4,805	4,877
First Chicago	641	1,326	1,945	3,312	3,427
Continental	1,446	1,402	1,551	997	1,457
Bank of New York	91	219	485	736	1,326
Republic Bank	323	98	269	702	733
Total	$39,019	$47,815	$71,847	$91,693	$119,380

Trading Income *

	1989	1990	1991	1992	1H93
Bankers Trust	1,435	2,513	2,654	2,578	1,774
J.P. Morgan	1,610	2,285	2,864	2,689	1,916
Citicorp	2,152	2,445	2,443	3,329	2,218
Chemical	326	436	1,293 (1)	1,272	747
BankAmerica	307	418	592	750	494
Chase	542	494	498	732	436
First Chicago	293	382	350	436	252
Continental	203	204	97	65	58
Bank of New York	103	90	129	170	64
Republic Bank	72	97	110	138	96
Total	$7,042	$9,363	$11,029	$12,159	$8,054

* Trading account income: the sum of 1) interest income from assets held in trading accounts, 2) trading gains (losses) and fees from foreign exchange transactions or other gains (losses) from foreign transactions, and 3) gains (losses) on assets held in trading accounts

(1) Reflects merger of Manufacturers Hanover and Chemical

Source: Consolidated Financial Statements for Bank Holding Companies, FR Y-9C

QUESTION E)2)

For those same bank holding companies over the same period of time, what percentage of assets are trading assets and what percentage of total income is derived from trading?

Table E.2 presents the ratio of trading account assets to total assets and the ratio of trading account income to total income for the 10 bank holding companies with the largest outstanding notional amounts of derivatives. In aggregate, the trading account assets as a percent of total assets for these companies increased from 5 percent to 12 percent between year end 1989 and mid-year 1993. The percentage of total income generated from trading activities increased from about 7 percent for 1989 to 16 percent for the first half of 1993.

Table E.2

Trading Account Share of Assets and Income

10 Largest Bank Holding Company Derivative Dealers

Trading Assets (% of Total Assets)	1989	1990	1991	1992	93Q2
Bankers Trust	21.92	27.88	36.87	41.28	47.59
J.P. Morgan	12.09	16.81	18.57	25.43	25.94
Citicorp	3.91	3.46	5.56	7.99	8.83
Chemical	0.73	1.17	5.09 (1)	3.22	5.73
BankAmerica	0.59	0.76	2.43	1.92	3.12
Chase	3.20	2.21	2.91	5.01	4.92
First Chicago	1.34	2.61	3.97	6.72	6.86
Continental	4.89	5.17	6.46	4.44	6.52
Bank of New York	0.19	0.48	1.23	1.79	3.23
Republic Bank	1.27	0.33	0.86	1.89	2.02
Average	4.85%	5.91%	8.16%	9.60%	11.79%

Trading Income * (% of Total Income)	1989	1990	1991	1992	1H93
Bankers Trust	19.85	31.79	39.04	39.31	49.37
J.P. Morgan	15.58	21.83	27.76	27.32	34.00
Citicorp	5.69	6.38	7.75	10.37	14.06
Chemical	3.99	5.48	9.22 (1)	10.49	12.15
BankAmerica	2.62	3.32	4.77	4.85	6.15
Chase	3.91	3.61	4.22	6.61	7.87
First Chicago	5.16	6.65	7.23	10.44	11.97
Continental	6.16	6.59	4.24	3.80	7.19
Bank of New York	1.87	1.70	3.10	4.80	3.67
Republic Bank	2.75	3.51	4.35	5.93	8.42
Average	6.63%	8.69%	10.96%	12.29%	15.95%

* Total Income: the sum of 1) interest income and 2) noninterest income

(1) Reflects merger of Manufacturers Hanover and Chemical

Source: Consolidated Financial Statements for Bank Holding Companies, FR Y-9C

QUESTION E)3)

To what extent are there legal and physical barriers erected between bank holding company proprietary trading activities and a bank's customer-related derivatives activities?

In the OTC derivatives market it generally is not practicable or desirable to separate a bank or bank holding company's activities for its own account and those for the account of its customers, as the bank or bank holding company generally will act as principal in most OTC derivatives transactions. Although a bank may sometimes act solely as a broker between two counterparties, it is generally difficult to locate and match end-users with identically offsetting requirements on a timely basis. Additionally, corporate and other end-users often prefer to enter into a contract directly with the bank rather than with another end-user, as the bank is in a better position than the end-user to judge the credit-worthiness of counterparties.

QUESTION E)4)

In trading for their own proprietary accounts, to what extent do dealer bank holding companies use information gleaned from customer-related derivatives activities?

As discussed in response to Question E)3) a bank or bank holding company generally acts as principal in OTC derivatives transactions with its customers. While the usefulness of information on any particular transaction with a customer is quite limited, a bank uses all available information, including at times customer order flows, in order to determine the need to seek transactions that will offset positions created by transactions with customers or otherwise adjust its positions.

F. TAXES

QUESTION F)1)

Please comment on the feasibility and implications of levying a tax on speculation-related derivative transactions.

As pointed out in the October 26 response to Question D)1), the term "speculation" is sometimes used in a pejorative sense to describe the taking of a large and extremely risky position in a market. Banking organizations are generally precluded from taking such positions. More appropriately, speculation may be used to refer to the activities of any participant in a market who is willing to take a view on the direction the market is heading and establishes an open position to profit from market movements in a particular direction, rather than seeking to fully offset an exposure in the same or another market. These participants are active in most financial markets and are an important source of liquidity to other market participants to facilitate, for example, hedging needs.

Though speculation may be defined in general terms, as a practical matter it is not feasible to distinguish between derivative transactions that are "speculative" from those that are not. Taxes are already levied on the income recognized from derivatives activities. If a separate, additional tax were levied on transactions deemed to be speculative, a clear and unambiguous definition of these taxable transactions would be required. Even if such a definition could be established, the taxation of trades deemed to be speculative would raise the cost to all participants of hedging trades since speculators may often be the counterparty to those entering into transactions for hedging purposes.

Aside from the issues surrounding the definition of a "speculative trade," a securities and derivative instruments transaction tax would be difficult to implement and to administer. The difficulty arises because the tax must apply to all transactions to limit avoidance, but to prevent market distortions, preferential treatment must be given to certain

instruments or transactions. In this regard, the treatment of derivative instruments is particularly problematic because the variety of financial instruments that are easily substitutable dramatically increases the difficulty of designing a transfer tax that would not be distorting. The design of a transfer tax for stocks, bonds, and derivative instruments that would not favor positions held in one market over another may not even be possible. The fundamental differences between traditional securities and derivatives, especially the nonlinear payoff profiles of derivative instruments, make it difficult if not impossible to develop a nondistorting tax. Depending on how a tax were imposed, it could change the relative returns on financial instruments and thereby favor derivative investments over cash market transactions or, alternatively, alter relative returns so that derivative transactions would become altogether unprofitable even for hedgers.

Aside from issues of competitive advantage, a transactions tax could distort information flows, and distort the market prices of taxed assets so that they would less accurately reflect their underlying fundamental economic values. The tax could increase price volatility and would almost certainly increase corporate costs of capital as corporations actively use derivative instruments such as swaps, caps, and collars to reduce their costs of capital. Under any significant tax, volume would likely migrate abroad unless transactions of U.S. residents in foreign markets were also taxed. This is especially true in the case of OTC derivative transactions which can be "booked" virtually anywhere in the world at little or no additional cost compared to "booking" domestically.

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U.S. HOUSE OF REPRESENTATIVES

COMMITTEE ON BANKING, FINANCE AND URBAN AFFAIRS

ONE HUNDRED THIRD CONGRESS

2129 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-6050

October 5, 1993

Honorable Eugene A. Ludwig
Comptroller
Office of the Comptroller of the Currency (OCC)
250 E Street, N.W.
Washington, D.C. 20219

Dear Comptroller Ludwig:

On October 28, 1993 at 10:00 a.m., the Committee on Banking, Finance and Urban Affairs will hold a hearing to examine the safety and soundness issues associated with bank derivative activities. You are respectfully invited to testify at the hearing.

So that the Committee may better understand the various safety and soundness issues involving bank derivatives activities, please work with the Federal Deposit Insurance Corporation (FDIC), the Office of Thrift Supervision (OTS), and the Federal Reserve to provide written answers to the following questions by the close of business October 26, 1993.

A. Regulation and Supervision

1. Please define and explain the systemic risks associated with bank derivative activities?
2. Please define and explain the risks associated with individual bank involvement in derivatives activities.
3. What steps has your agency taken to ensure the safety and soundness of banks involved in derivative product activities?
4. Do current international and domestic capital standards adequately reflect the risks associated with derivatives activities?
5. Please summarize your agency's strategy for supervising bank derivative product activities?
6. What steps has OCC taken to ensure examiners are properly trained to supervise derivative activities? How many examiners are trained to supervise bank derivative activities? Is there a separate "derivatives" examiner corps at the OCC?

7. To what extent does our multi-layered bank regulatory system complicate efforts to supervise derivatives activities at federally insured depository institutions? Would a single bank regulatory agency improve oversight and supervision of bank derivatives activities? Please explain the reasoning behind your call for the creation of an interagency task force on derivatives.
8. How does regulation and supervision of derivatives activities differ between banks and nonbanks?
9. Does your agency support additional financial reporting requirements (e.g. credit exposure, replacement cost exposure, etc.) related to bank derivative product activities?
10. Does your agency support changing U.S. and international accounting standards to reflect more standardized reporting of derivatives information contained in bank financial statements?
11. Are bank risk management systems adequate to address the risks of derivatives activities? Please differentiate between the large, well established dealers versus new entrants to the derivatives market. Is your agency developing standardized guidelines for bank risk management systems?
12. Does your agency require senior managers and board members to pass competency tests to ensure they are experienced in managing the risks associated with derivative activities?
13. Should banks have at least two directors that have direct experience in managing the risks associated with derivatives activities?
14. Under what scenario(s) could an individual bank fail as a result of derivatives-related activities? What catastrophes in the markets could cause a derivatives-related bank failure? Are banks required to formulate/simulate plans for such catastrophes?

B. Bank Derivatives Activity

1. What percentage of derivatives products are provided by commercial banks (i.e. what is commercial bank market share)?
2. Please provide a list of commercial banks that offer derivatives products. Break the information down by type of derivative product, and identify the banks that are considered dealers.
3. Are bank derivative activities profitable? How important are derivatives-related profits to overall bank profitability?

C. Concentration

1. What are the pro's and con's related to the concentration of bank derivatives activities in a handful of large money center banks?

2. For each of the ten largest bank derivatives dealers, indicate the credit exposure related to derivatives as a percentage of the banks capital.
3. Does your agency have defined criteria that must be met before a bank can offer derivative products? Do banks need to notify your agency prior to becoming a dealer in derivative products?

D. Speculation

1. How does your agency define and identify speculation? Are there any rules or regulations involving bank speculation with derivative products?
2. What percentage of bank derivative transactions are related to a) market making functions? b) speculation? c) risk arbitrage?
3. To what extent do banks enter into derivatives contracts to hedge or square positions on their own balance sheets?
4. What percentage of bank derivatives transactions are entered into with a) other market makers? b) financial versus nonfinancial end-users? c) existing bank customers? d) for the bank's proprietary trading purposes?

E. Separately Capitalized Subsidiaries

1. What are the pro's and con's of requiring banks to establish separately capitalized subsidiaries to engage in derivatives activities?
2. In providing derivatives products, to what extent does deposit insurance provide banks with an advantage or disadvantage over nonbank competitors?

Please provide answers to the following questions by the close of business, November 26, 1993.

A. Separately Capitalized Subsidiaries

1. Does the OCC currently encourage or discourage national banks from setting up separately capitalized subsidiaries to engage in derivatives-related activities? Over the past several years, how many national banks applied to establish separately capitalized subsidiaries to engage in derivative-related activities? Has the OCC acted on those applications? Please explain the reasons the OCC approved or denied each application? Has the OCC encouraged banks to withdraw such applications?
2. How does a bank's credit rating affect its ability to provide derivatives products to its customers? How does a banks credit rating affect its ability to perform market making functions in derivatives products?

B. Over-the-Counter (OTC) Versus Organized Exchange

1. What percentage of bank derivative transactions are arranged over-the-counter (OTC) as opposed to being arranged through an organized exchange? What percentage of bank OTC transactions are between market-makers versus OTC transactions between market-makers and their customers?
2. What are the differences in the markets, and what special supervisory issues arise as a result of the differences in the markets?
3. To what extent does your agency interface/cooperate with exchange officials (e.g. NYSE, CBOT, etc.) associated with bank exchange related activities?
4. To what extent does your agency interface/cooperate with the Commodities Futures Trading Commission (CFTC) and the Securities Exchange Commission (SEC) related to bank derivatives activities?
5. Please identify exchange-related clearing organizations, their function and bank membership in clearing organizations? Who performs the exchange or clearing organization function in the OTC market?
6. How do the parties to a derivatives contract ensure contract performance in the OTC market?

C. Trusts

1. How many derivatives products (quantity and notional value) do dealer banks sell to their existing discretionary trust customers? nondiscretionary trust customers? What is the income from those transactions?
2. Are there any rules governing the sale of derivative products to a bank's discretionary or nondiscretionary trust customers?
3. In your opinion, is it a conflict of interest for a bank to sell derivatives products to its discretionary or nondiscretionary trust customers?

D. Foreign Banks

1. To what extent do foreign banks act as a dealer in derivatives products in the U.S.?
2. Do agencies and branches of foreign banks act as dealer of derivative products?
3. How important are foreign banks to the derivative products market in the U.S.?
4. Is there adequate coordination with foreign bank regulators in the derivatives area?

E. Trading Accounts and Chinese Walls

1. For the top ten bank derivatives dealers for the past five years, please provide trading assets and trading income?
2. For those same banks over the same time period, what percentage of each banks assets are trading assets and what percentage of income is derived from trading profits?
3. To what extent are there legal and physical barriers erected between bank proprietary trading activities and a bank's customer-related derivatives activities?
4. In trading for their own proprietary accounts, to what extent do dealer banks use information gleaned from customer-related derivatives activities?

F. Taxes

1. Please comment on the feasibility and implications of levying a tax on speculation-related derivative transactions.

Please feel free to address any other issues that will shed light on your agencies efforts to ensure that bank derivative activities are conducted in a safe and sound manner.

You will be given 5 minutes to summarize your written remarks. Banking Committee rules require that 200 copies of your written testimony be delivered to Room 2129, Rayburn House Office Building, no later than the close of business October 26, 1993.

Thank you for your cooperation. The Committee looks forward to your testimony. With best wishes.

Sincerely,

Henry B. Gonzalez
Chairman

HBG:dk/mc

For Release Upon Delivery
October 28, 1993, 10:00 a.m.

TESTIMONY OF

EUGENE A. LUDWIG

COMPTROLLER OF THE CURRENCY

Before the

COMMITTEE ON BANKING, FINANCE AND URBAN AFFAIRS

of the

U. S. HOUSE OF REPRESENTATIVES

October 28, 1993

Mr. Chairman and members of the Committee, I am pleased to respond to the questions in your letter of October 5, 1993, concerning the safety and soundness issues associated with bank derivative activities.

A1. Please define and explain the systemic risks associated with bank derivative activities.

Systemic risk is the risk that a disruption by any market participant, or group of participants, could cause widespread difficulties for other participants in other market segments, or in the financial system as a whole. Systemic risk is a result of ordinary market activities, including derivatives activities; and derivatives are not the sole, or even the principal, source of systemic risk in financial markets. However, systemic risk arising from derivatives activity has certainly increased in recent years, as derivatives markets have grown in volume and complexity.

A systemic disruption could begin with a large loss on a derivatives position at an individual firm. As the response to Question A2 describes, institutions engaging in derivatives activities take on a variety of risks, and those risks are often linked in complex ways. If improperly managed, those risks, taken singly or in combination, could lead to large losses.

The growth of derivatives markets, coupled with rapid changes in technology and telecommunications, have increased market efficiency but also have increased the sensitivity of the financial system to shocks. Those changes have brought financial markets closer together, with the result that market dynamics can aggravate the effects of a loss at an individual firm.

The Office of the Comptroller of the Currency (OCC) believes that the best defense against systemic risk is for each bank to implement effective risk management systems that ultimately include limits and controls on interconnection risk[1] and the ability to monitor the exposure resulting from the covariance between one or more risk factors. We are preparing a banking circular and supplemental guidance for examiners that emphasize the need for all banks to have risk management systems in place that are sufficient to measure, analyze, and control each of the risks arising from derivatives activities, and to have sufficient capital to absorb potential losses from those risks. We expect to issue the banking circular shortly, and to issue the guidance within the next few weeks.

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[1] Interconnection risk is defined in the response to question A2.

A2. Please define and explain the risks associated with individual bank involvement in derivatives activities.

The risks that arise from bank derivative activities are the same risks that arise from more traditional banking activities: credit risk, market risk, liquidity risk, operational risk, settlement risk, and legal risk; but the risks associated with derivative products can often linked in different ways. Those linkages make interconnection risk a prominent feature of derivatives. As a result, managing those risks can require, particularly for banks that are more active in derivatives markets, different risk measurement methodologies and stronger risk control and management systems. The forthcoming banking circular and examiner guidance will state the need for banks to have systems in place to adequately measure, monitor, and control each individual type of risk, as well as the interdependencies among those risks.

Credit Risk. Credit risk is the risk of loss in the event the counterparty to a transaction defaults or otherwise fails to perform under the terms of a contract.

Credit risk exposure for exchange-traded or over-the-counter (OTC) derivatives contracts consists of two components: (1) current replacement cost of the contract[2] and (2) potential increases in replacement cost if market prices move further.

For exchange-traded derivatives (futures and options), credit risk is absorbed by the futures exchange clearinghouse, which stands as the counterparty to all transactions.

Credit risk exposure associated with OTC options and derivative contracts that contain options (options, swaptions, and rate protection agreements) consists of the same two components described above, current replacement cost and potential replacement cost. In the case of option contracts, however, only one party--the writer or seller of the contract--is obligated to perform. Hence, the party purchasing the option contract takes on all the credit risk, since it is exposed to risk of loss if the writer of the option defaults.

Market risk. Market risk is the risk that a bank's derivatives position may decline in value due to changes in a variety of market factors, including interest rates, exchange rates, commodity prices, or equity values. Such losses may adversely affect a bank's earnings and capital. Market risk is appropriately measured on a portfolio basis, in terms of the net price sensitivity of the portfolio of contracts.

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[2] Replacement cost is much smaller than the notional principal amount. The notional principal is the basis for calculating the amounts exchanged, but it does not reflect the amount actually exchanged, except in some currency derivative transactions.

Market risk depends on the potential magnitude of change in the price of the underlying asset and on the relationship between changes in the value of the underlying asset and the value of the derivative position (the price sensitivity of the instrument). Price sensitivity is particularly important for options or derivatives that contain options.

Liquidity risk. Liquidity risk with respect to financial derivative products can be categorized into two types--market/product liquidity risk and cash flow risk.

Market/product liquidity risk is the risk that an institution will not be able to sell a financial asset or off-balance-sheet instrument at, or close to, its fundamental value. In times of market stress, market liquidity can change rapidly; in some markets, it can change significantly over the course of the trading day. Generally, OTC-traded derivatives are subject to greater amounts of market liquidity risk than are exchange-traded derivatives, because the latter are standardized contracts that are backed by a clearinghouse.

Cash flow liquidity risk is the risk of loss when a party is unable to raise the funds necessary to meet cash flow obligations at an acceptable price as those obligations become due.

Settlement risk. Settlement risk is the short-term risk an institution faces when it either pays out funds or delivers assets before receiving assets or payment from its counterparty. For example, in foreign exchange markets, the time differences between normal payment hours in different countries can create gaps between offsetting payments from a single transaction. Or, settlement risk can arise when payment and delivery of securites does not occur simultaneously. The time horizon for settlement risk is usually less than twenty-four hours.

Operating Risk. Operating risk is the risk of loss due to inadequate internal controls or procedures, inaccurate assessment of risk, human error, system failure, or fraud. Such loss could occur, for example, when a bank takes on open positions or credit exposures that exceed established limits, or in the absence of proper communication between senior management and the operating and trading departments that are executing, valuing, recording, and monitoring derivative product transactions.

Legal Risk. In the United States, a significant source of legal risk has been the potential application of the off-exchange trading prohibition of the Commodity Exchange Act (CEA). For the purposes of the CEA, the terms "futures" and "options" have been interpreted broadly by the Commodity Futures Trading Commission (CFTC), leading to concerns that OTC derivatives would be found to be illegal off-exchange futures. After initially indicating that swap contracts would be subject to the provisions of the CEA, the CFTC issued a policy statement in 1989 indicating that swap agreements meeting certain conditions would not be considered to be illegal futures. The CFTC has replaced that policy statement with a rule under the expanded exemption

authority it received as a result of the recent passage of the Futures Trading Practices Act of 1992. This change significantly reduces the risk that most swaps and similar instruments would be deemed to be illegal off-exchange futures.

Another source of risk arises with regard to the legal enforceability of netting provisions under which exposures from multiple derivative transactions are netted. Institutions use master agreements with netting provisions to reduce the overall level of credit risk (and the frequency and amount of payment) to a counterparty. When a bank enters into contracts with a counterparty subject to a master agreement, the bank takes the risk that, in the event of the counterparty's failure, the receiver for the counterparty will not recognize the validity of the netting provisions. The receiver could repudiate individual contracts under which the counterparty was obligated to pay the bank, while demanding payment on those contracts on which the bank was obligated to pay the counterparty--the practice of "cherry picking". Recent legislative changes have significantly reduced this risk for U.S. financial institutions dealing with counterparties in the U.S., but this risk continues to be important with regard to U.S. bank dealings with some non-U.S. counterparties.

The OCC expects banks to limit their legal risk by obtaining opinions of counsel or otherwise and satisfying themselves that counterparties have legal authority to enter into master agreements and that agreements and the netting provisions contained therein are enforceable under relevant laws, and by strengthening due diligence reviews of counterparties.

Aggregation or Interconnection Risk. Aggregation or interconnection risk arises when one derivatives position interacts with the institution's other positions, in derivatives products and in the underlying markets. These interactions frequently involve both cross-border and cross-market links and a wide range of financial instruments. They have increased in number and complexity as markets have grown.

A3. What steps has your agency taken to ensure the safety and soundness of banks involved in derivative product activities?

OCC supervision includes a number of activities that enable us to monitor the safety and soundness of national banks engaged in derivatives activities: we allocate sufficient examiner resources to supervise the banks most actively involved in derivatives activities as dealers and market-makers; we are issuing guidance to both examiners and bank personnel regarding the risk management processes that should govern such activities; and we are working to ensure that the risk-based capital rules, and the changes thereto currently under discussion among the Basle committee and with other U.S. bank regulatory agencies, capture the credit and market risk associated with derivatives transactions.

On-Site Supervision

We have assigned full-time examiner staffs to the lead national bank of all the largest banking companies.[3] That group includes dealers and the largest "end-users" of derivative products. Examiners monitor the bank's trading, dealing, and risk management activities, including its derivatives activities; and they analyze the impact of the risks associated with derivative use in the context of the bank's overall risk profile. In particular, they periodically review the bank's risk positions and profitability trends, and conduct periodic examinations of various product areas to ensure the propriety of management processes governing these instruments.

Every other national bank is assigned to an examiner who is responsible for supervising its activities, risk levels, and reviewing the adequacy of its risk management processes.

Written Guidance

The OCC provides written materials to guide examiners in the examination process and to inform bank managers of the risk management processes that should be in place to govern activities involving derivative products. Some of that guidance focuses on dealer activities; other materials are directed at end-user activities.

The primary resource for supervision of dealer activities is the *Source Book*, which is produced by the OCC's Chief National Bank Examiner's Office. Applicable sections

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[3] The OCC's supervisory process assigns a national bank examiner to all national banks. This examiner, commonly referred to as the Examiner-in-Charge (EIC), is responsible for ongoing communication with the bank. In the largest 40 companies under OCC supervision (those companies hold national bank assets of greater than $10 billion), the EIC is in residence at the bank and is supported by a staff, commensurate with the size and sophistication of the bank's activities. Those 40 banks hold approximately 75 percent of all national bank assets.

of the *Source Book* include: Trading Activities, Arbitrage/Hedging Activities, Commodity Derivatives Markets, Foreign Currency Options and Risks, Comparative Risk Table and Risk Analysis Framework. Those sections are attached as Appendix 1.

The procedures and guidelines in the *Source Book* establish a framework that can be adapted to the examination of trading portfolios of all types, including derivative products. The *Source Book* also addresses back-office controls, such as segregation of duties for transaction input, confirmation generation and report preparation. Although the rapidly changing nature of the derivatives markets results in a stream of new products and continual changes in existing products, the basic management concepts of accurate risk measurement systems, proper revaluation techniques, appropriate reporting lines and sound policies apply to all derivatives trading activities.

The primary resources for evaluating end-user activities are the *Source Book*, and the *Comptroller's Handbook for National Bank Examiners*. The applicable sections of the *Source Book* include: Interest Rate Risk Management and Liquidity Risk Management, which are attached as Appendix 2. The applicable sections of the *Comptroller's Handbook* provide guidance for examining risk management activities: Section 405--Funds Management, and Section 813--Foreign Exchange. Those sections are attached as Appendix 3.

An additional resource for examiners reviewing derivatives used for risk management purposes is *Advisory Letter 90-1: Interest Rate Risk*, which is attached as Appendix 4. The letter outlines OCC's expectation that national banks have a comprehensive system (including a policy statement regarding the assumption and management of interest rate risk, senior management and Board oversight, risk measurement systems, and risk limits) to monitor and control their interest rate risk exposure.

There are three resources that provide guidance for examining derivatives activities at dealer *and* end-user institutions. *Banking Circular 79,* which is attached as Appendix 5, discusses the policies and procedures required of national banks that engage in financial futures contracts, forward placement contracts, or standby contracts. It also addresses the accounting treatment for these products. *Banking Circular 228,* which is attached as Appendix 6, outlines supervisory policies for mortgage derivative products and stipulates that securities trading activities (including trading in mortgage derivative instruments) should only be conducted in a closely supervised trading account by banks with strong capital and earnings and adequate liquidity. *The Comptroller's Handbook for National Bank Examiners*, Section 203 - Investment Securities, which is attached as Appendix 7, provides general examination guidelines for banks using futures, forwards and options in trading activities and for risk management purposes. Section 405--Funds Management, provides examiner guidelines for swap activities.

Reference documents are also available for examiners reviewing derivatives activities.

One such resource, provided to all examiners and all national banks is *An Examiner's Guide to Investment Products and Practices*. The *Guide* includes specific sections describing derivative products, markets, and risks and applicable policies and procedures, which are attached as Appendix 8.

The forthcoming banking circular on risk management of financial derivatives activity, which will supersede *Banking Circular 79*[4], will further address the types of systems and controls that the OCC considers appropriate in connection with the management of credit, market, liquidity and operating risks. This revised guidance will also alert national banks to significant legal issues associated with engaging in derivatives transactions and the OCC's expectation as to how these issues should be addressed.

[4] The accounting provisions of Banking Circular 79 will remain in force, however, because they will continue to be contained in the instructions to the Call Report.

A4. Do current international and domestic capital standards adequately reflect the risks associated with derivatives activities?

The OCC believes that the inclusion of off-balance-sheet counterparty exposures into capital standards was an important and necessary step in ensuring that banks maintain adequate capital for derivatives activities. However, the OCC also recognizes that the current standards do not explicitly consider market risk and that, as new products or activities emerge in the derivative markets, the RBC standards may need revision. Hence, the OCC is actively involved in several initiatives that, if adopted, would result in modifications and additions to the current risk-based capital treatment of derivatives. The scope of these initiatives include credit and market risk. They are being pursued jointly with the other U.S. banking agencies (primarily the Federal Reserve Board (FRB) and the Federal Deposit Insurance Corporation (FDIC)), and with international supervisors through the Basle Committee on Bank Supervision.

Currently, the OCC's capital standards address risks arising from derivatives activities through a combination of explicit regulatory *minimum* capital standards and evaluations of a bank's capital adequacy through the examination process. Our risk-based capital requirement (12 CFR 3, Appendix A) imposes an explicit capital charge for the credit (counterparty) risk exposure in financial derivative products. This capital charge applies to interest rate and foreign exchange (FX) swaps, forward rate agreements, and purchased interest rate and FX options[5]. This capital charge is determined by a two-step process: (1) the calculation of the "credit risk equivalent" (CRE) amount of the contract and (2) the assignment of the CRE amount to the proper risk-weighting category, based on the counterparty to the contract. The CRE of the contract has two components: (1) the mark-to-market exposure, reflecting the current replacement cost of the contract, and (2) the potential risk add-on exposure, reflecting the potential for the replacement cost to increase over the life of the contract. This treatment has been extended to apply to newer derivative products, including commodity and equity-index swaps.

The initiatives that are being studied or developed are described below. The OCC believes the results of these initiatives will enhance regulatory capital standards for, and supervision of, derivative activities. However, the OCC also believes that the importance and complexity of these proposals demands that we provide sufficient opportunities for public review and comment on the proposals. The OCC will carefully consider these comments before adopting any proposals. Further, given the truly global span of derivative markets, the OCC strongly believes that uniform capital regulations among banking agencies and countries is desirable to prevent competitive

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[5] Contracts that are traded on an exchange requiring the daily payment of any variations in the market value of the contract, such as futures traded on U.S. exchanges, are not subject to the capital requirements.

inequalities and to ensure prudential banking standards in all major markets.

CAPITAL INITATIVES UNDER STUDY OR DEVELOPMENT

Credit Risk:

(a) The Basle Committee Proposal on Netting would recognize legally enforceable bilateral netting arrangements when computing a bank's counterparty credit risk exposure in derivatives. Presently, only netting by novation[6] is permitted. Although this proposal would have the effect of reducing the current capital charge for certain derivatives, the OCC believes that this proposal, by encouraging the use of enforceable bilateral netting arrangements, will reduce the level of settlement risk, and therefore, systemic risk in the derivatives markets.

The Basle Committee released a consultative paper on this proposal in April, 1993. The OCC anticipates issuing a notice of proposed rulemaking to seek public comments on this topic by year-end.

(b) The Basle Committee Subgroup on Off-Balance Sheet Activities is reviewing the current risk-based capital treatment of derivatives for counterparty risk. This review could lead to recommended changes in the factors used to estimate "potential future" counterparty risk for some financial derivatives. This work is still under discussion by the Basle Committee's subgroup, and no formal proposal has been made.

(c) The OCC recently published a Notice of Proposed Rulemaking on Collateralized Transactions, which would amend the risk-based capital guidelines to lower the risk weight from 20 percent to zero percent for particular transactions that are collateralized by cash or government securities. The latter treatment would more accurately reflect the near absence of credit risk and the minimal operational risk for certain transactions. Although not specifically listed as a type of transaction covered by the proposed rule, the OCC requested comment on, and is considering including, collateralized swap counterparty exposures among the transactions that could receive a zero percent risk weight. We anticipate working with the FRB to ensure a uniform application of our

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[6] Netting is the agreed offsetting of positions or obligations by trading partners or participants in a system. Netting reduces a larger number of individual positions or obligations to a smaller number of positions. Novation refers to the satisfaction and discharge of an existing contractual obligation by the substitution of new contractual obligations. Netting by novation occurs, therefore, when the existing contractual obligation is extinguished by the subsequent new obligations.

respective collateralized transactions rules. The FRB published its final rule on collateralized transactions at the end of 1992.

Market Risk:

(a) The FDICIA Section 305 Proposal would establish a system for measuring a bank's overall interest rate risk exposure and would provide a basis for requiring capital for exposures that exceed a threshold level. Derivatives would be incorporated into the risk measure.

The U.S. banking agencies issued a joint Notice of Proposed Rulemaking on this proposal on September 14. The comment period for the proposal closes on October 29.

(b) The Basle Committee Proposal on Market Risk for Trading Books would incorporate a capital charge for the market risk of equity and debt derivatives that are part of a bank's trading activities. This charge would be in addition to the current risk-based capital charge for counterparty (credit) exposures. The charge would not be applied to derivatives held outside of trading portfolios, such as those used to hedge structural balance-sheet positions.

The Basle Committee issued a consultative paper on this proposal in April, 1993. The consultative period closes December 31, 1993. Any proposal to modify the OCC's current risk-based capital guidelines that might result from this consultative paper would be issued for full public comment through the rulemaking process before being adopted. The OCC will carefully consider these comments before adopting any proposals.

(c) The Basle Committee Proposal on Foreign Exchange Risk would introduce a capital charge on a bank's net open foreign currency and precious metals positions. Any foreign exchange or precious metal derivative instrument would be included in determining a bank's net open position. This charge would be in addition to any applicable counterparty or market risk capital charges that are under consideration by the Basle Committee.

Also in April, 1993, the Basle Committee issued a consultative paper on this proposal, and the consultative period closes December 31, 1993. As with the market risk proposal, the OCC would seek public comments through the rulemaking process and carefully consider those comments before adopting any change to its current risk-based capital guidelines.

Appendix 9 provides greater detail on the current risk-based capital treatment for derivatives and on the FDICIA Section 305 and Basle Committee's Market Risk and Foreign Exchange Risk proposals.

A5. Please summarize your agency's strategy for supervising bank derivative product activities.

The OCC's supervisory strategy with regard to national bank derivatives activity is to ensure that (1) senior management and the Board of Directors understand and control the risk levels that result from derivative products and (2) the bank has in place adequate risk management processes to govern the use of those products. Our forthcoming banking circular on derivatives activities will make it clear that we expect national banks engaging in derivatives activity to have or adopt a "no surprises" risk management policy that is backed by adequate systems and controls. Such a policy would focus on appropriate and meaningful risk exposure limits; risk management units that are independent of business and trading units; sophisticated back office and front office personnel and systems; meaningful and timely communications between trading, risk management and operation units; detailed counterparty credit analysis; and pay particular attention to issues of counterparty authority, the enforceability of master agreements and rights with respect to margin and collateral.

Examiners execute our supervisory strategy through periodic examinations, by assessing the levels of individual risks the bank faces and the bank's overall risk profile. Examiners also evaluate risk management processes, including the appropriateness of policies governing risk limits, the accuracy and adequacy of risk measurement and monitoring systems, appropriateness of independent oversight functions, and quality of internal controls. Examiners use the guidance listed in the response to question A3 in performing these functions.

If the examiner believes a bank's risk profile has or will become too great, he or she will raise those concerns first to OCC management and then, if appropriate, with the bank's Board of Directors. The OCC will then take action to require the bank to reduce its risk to a more modest level or to raise additional capital to compensate for the risk level it has assumed.

Similarly, if the examiner concludes that a national bank's risk management processes are inadequate for current or planned activities, the OCC requires management to implement appropriate improvements or curtail the risk level.

A6. What steps has OCC taken to ensure examiners are properly trained to supervise derivative activities? How many examiners are trained to supervise bank derivative activities? Is there a separate "derivatives" examiner corps at the OCC?

The OCC provides training and guidance for examiners supervising off-balance-sheet activities and has identified a cadre of capital market specialists who focus their attention on banks' capital market activities[7]. The OCC does not have a separate "derivatives" examiner corps.

Training and guidance received by OCC examiners supervising bank off-balance-sheet activities

The most important training that OCC examiners supervising bank off-balance-sheet activities receive is on-the-job, through participation in on-site examinations of banks using derivative products. OCC examinations at the largest trading banks are staffed with a mix of very experienced to modestly experienced examiners. We rotate our examiners among districts and institutions to provide them with exposure to different derivatives activities, risk management systems, technological systems, *etc.* Hence, we provide our less experienced examiners with substantive training, while helping our more specialized examiners to remain abreast of developments in the derivative markets.

OCC examiners supplement the knowledge and experience they gain on-the-job by attending a variety of training programs that specifically address bank off-balance-sheet activities, including activities related to derivative products and markets. Examiners receive such training through programs provided by the OCC and the Federal Financial Institutions Examination Council (FFIEC).

Capital Markets Specialists

The OCC has a cadre of 56 capital markets specialists--field examiners who focus their attention on supervising banks' capital markets activities.[8] Those examiners receive specialized training on an ongoing basis, through the annual capital markets seminar and through periodic seminars on specialized topics. At those seminars, OCC staff and industry experts discuss a wide variety of capital market topics, including a variety of issues associated with derivative products.

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[7] OCC's capital market specialists examine the bank's trading and treasury activities, including its use of derivative instruments in those contexts, and also its compliance with certain capital markets-related laws and regulations.

[8] Some of those examiners are assigned to larger banks; others specialize in examining smaller banks.

We provide our capital markets specialists with written reference materials related to financial markets and instruments. For example, they receive a quarterly Capital Markets Newsletter, published by our Chief National Bank Examiner's office. The newsletter provides an annotated bibliography of the most important articles on derivatives that were published in various periodicals and industry publications during the prior quarter and often features articles written by OCC staff on derivatives.

In addition, a number of OCC staff members at our Washington headquarters specialize in issues related to supervision of bank derivatives activities. Those staff members provide support for our capital markets specialists.

A7. To what extent does our multi-layered bank regulatory system complicate efforts to supervise derivatives activities at federally insured depository institutions? Would a single bank regulatory agency improve oversight and supervision of bank derivatives activities? Please explain the reasoning behind your call for an interagency task force on derivatives.

The fact that there are four Federal regulators of banks and thrifts complicates all supervision to some extent; but the problems of interagency coordination are no different for derivatives than for any other aspect of bank supervision. Indeed, to the extent that derivatives activities are concentrated in a relatively small number of large institutions which are intensively supervised, interagency coordination may be easier than in other areas.

The OCC, the FDIC, the FRB, and the Office of Thrift Supervision (OTS) work together routinely to meet their supervisory and regulatory responsibilities. Coordination and cooperation occur through informal channels, such as regular meetings of the heads of the regulatory agencies; and through formal structures such as the Federal Financial Institutions Examination Council (FFIEC) and the Interagency Country Exposure Review Committee. In addition, the OCC's District offices work with state regulators to improve the coordination of efforts and sharing of information where we have joint responsibility for multi-state and multi-charter banking companies.

Interagency coordination has been a particular focus of the Administration. For example, the Administration's initiatives to improve the availability of credit have been implemented through joint interagency guidelines or coordinated rulemakings. The agencies held joint public hearings on Community Reinvestment Act (CRA) reform, and are working together on ways to make the CRA work better. The agencies have also improved their coordination of examinations, under an interagency policy statement issued on June 10.

My call for an interagency task force on derivatives was intended to apply the principles of interagency coordination in developing supervisory policies for derivatives. The staff-level interagency working group, which is an informal group currently composed of representatives of the OCC, the FDIC, the FRB, and the OTS, has established two limited objectives for the time being: (1) to share information with respect to the extent and nature of bank and thrift involvement in the derivatives market, and (2) to work on developing consistent regulatory accounting principles with respect to derivatives transactions. At some point, we hope to expand the group to include the Commodity Futures Trading Commission (CFTC) and the Securities and Exchange Commission (SEC).

A8. How does regulation and supervision of derivatives activities differ between banks and nonbanks?

All corporations, including banks, that execute and clear futures and options products through public exchanges are regulated by the CFTC and designated self-regulatory organizations. Accordingly, they operate under these regulators' record-keeping, capital, margining, and uniform and fair practice rules.

All over-the-counter derivative activities conducted by banking companies are subject to oversight and supervision by the banking agencies. However, certain OTC derivatives transactions are conducted by non-banks in legal entities that are regulated by neither the CFTC, the SEC, nor state or federal bank regulatory agencies.

Historically, the style of bank regulation, which has been carried out in large part through on-site examinations, has differed greatly from non-bank regulation. As a result, we believe that bank participants in derivatives markets are subject to greater regulatory scrutiny than their non-bank counterparts.

A9. Does your agency support additional financial reporting requirements (e.g. credit exposure, replacement cost exposure, etc.) related to bank derivative product activities?

The OCC does not believe that current reporting requirements provide adequate public disclosure of financial derivatives exposures. The OCC believes there is a need for financial institutions engaged in derivative activities to increase their disclosures regarding the nature and importance of those activities, and with regard to the sustainability of earnings. Such increased disclosures would contribute to systemic stability by increasing market scrutiny of derivatives activity. We are considering revisions to and/or expansion of current disclosures required of national banks both alone and through the informal interagency task force, and in conjunction with the Financial Accounting Standards Board (FASB).

Whatever additional and/or modified disclosures are determined to be appropriate, we believe such requirements should apply equally to all market participants (*e.g.*, to broker-dealers, insurance companies, and other financial institutions as well as banks).

A10. Does your agency support changing U. S. and international accounting standards to reflect more standardized reporting of derivatives information contained in bank financial statements?

The OCC believes that changing U.S. and international accounting standards to reflect more standardized reporting of derivatives information for all financial entities engaged in derivatives activities would confer substantial benefits to the financial entities themselves, and to users of their financial statements.[9] The OCC is concerned that national banks may be affected by inconsistent accounting standards when evaluating the off-balance-sheet exposures of counterparties to derivative transactions into which they enter.

We are also concerned that the lack of uniform standards could cause U.S. banks to suffer a weakened competitive position *vis-a-vis* their foreign counterparts and other U. S. financial institutions. For example, national banks could suffer competitive disadvantages if other institutions were permitted to defer derivative gains and losses under more liberal conditions. Deferring gains and losses allows institutions to reduce the volatility of their earnings and provides them with additional flexibility in pricing financial products they are offering for sale.

Hence, the OCC continues to participate in domestic efforts to develop consistent accounting standards for derivatives. As a member of the FASB's Financial Instruments Task Force, the OCC's Chief Accountant participates in the FASB's efforts to address issues related to U.S. accounting standards for derivatives and other financial instruments. The OCC also participates in the FFIEC's interagency review of accounting practices, which includes review of derivatives accounting practices.

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[9] The Group of 30 noted in its July 1993 report, *Derivatives: Practices and Principles*, that "...(the lack of consistent accounting standards) makes it difficult for users of financial statements to understand an organization's use of derivatives and the accounting bases upon which its financial statements have been drawn up. Because of this lack of transparency, users of financial statements may be misled into making credit and investment judgments they might not otherwise have made."

A11. Are bank risk management systems adequate to address the risks of derivatives activities? Please differentiate between the large, well established dealers versus new entrants to the derivatives market. Is your agency developing standardized guidelines for bank risk management systems?

Our examiners have found that the well-established dealers--the large banks with the most experience with derivatives--have in place, or are moving to establish, systems that are adequate to perform such analysis. We are concerned, however, that some of the newer entrants to the markets may be relying on systems that evaluate derivatives' risks in ways that do not fully reflect all of the risk factors. We are also concerned that those banks might not use evaluation techniques that formally recognize the interdependencies among these risk factors.

Our forthcoming guidance on the risk management of derivatives will emphasize the need for banks to properly measure and monitor the individual and aggregate risks associated with their derivatives portfolios, and set and follow appropriate risk limits. All national banks engaged in derivatives transactions should have comprehensive risk management systems that are commensurate with the scope, size, and complexity of their activities and assumption of risks. The guidance will emphasize that such systems should enable the bank to adequately measure, monitor, and control the potential reductions in earnings and capital that arise from the risks associated with their derivatives activities. The guidance will be sufficiently flexible, however, to allow banks to develop systems that are most appropriate for their particular circumstances and needs.

A12. Does your agency require senior managers and board members to pass competency tests to ensure they are experienced in managing the risks associated with derivative activities?

The OCC does not require senior managers or board members of national banks to pass competency tests for derivatives activities. Rather, we monitor, through bank examinations, the effectiveness of senior management and board oversight of bank activities, including derivative activities. OCC policy requires banks to ensure, through effective senior management supervision and board oversight, that their activities are conducted in a safe and sound manner, and in a way that is consistent with the Board's overall risk management philosophy and the bank's business strategies.

We believe it would be inappropriate to set special competency requirements for members of the Board of Directors of national banks. The Board is responsible for governing the overall condition of the bank. As such, directors are not required to possess specialized experience or expertise in specific areas of bank operations, but rather to provide broad oversight and maintain a strong, independent, and active involvement in the bank's affairs.

A13. Should banks have at least two directors that have direct experience in managing the risks associated with derivative activities?

The OCC regards the Board of Directors of a national bank as a governing body that must possess the experience, knowledge, and understanding to identify and address the issues of concern to the bank. OCC policy requires effective board supervision of the risks inherent in a bank's activity, including its derivatives activity, and the OCC examination process specifically addresses the issue of board supervision.

The appropriate size and composition of a bank's Board of Directors depends on the bank's individual circumstances, its business strategy, and its view toward risk. We do not believe it is necessary for board members who are overseeing derivatives activities to possess direct experience in managing the risks. Such experience is essential, however, for line managers with direct responsibility for the bank's derivatives transactions.

A14. Under what scenario(s) could an individual bank fail as a result of derivatives-related activities? What catastrophes in the markets could cause a derivatives-related bank failure? Are banks required to formulate/simulate plans for such catastrophes?

As the response to question A1 describes, institutions engaging in derivatives activities take on risks that are often linked in complex ways. If improperly managed, those risks could result in substantial harm to the bank. Furthermore, the growth of derivatives markets, and the complexity inherent in many derivative instruments, has increased the vulnerability of individual firms and the financial system as a whole to external shocks.

The OCC believes that the best and appropriate defense against such events is for each bank engaging in derivatives activity to properly measure, manage, and control their risk. Our forthcoming guidance on financial derivatives activities will require national banks to adopt and have in place a "no surprises" risk management policy. We will require national bank dealers of derivative products to regularly perform scenario analysis to determine the effect of various market environments, including abnormal market environments, on the market value of their portfolios. The guidance will emphasize the need for banks to be prepared for such conditions by performing simulations under which normal assumptions about market conditions no longer apply. We will require banks to be aware of how their portfolios would perform in the event of abnormally large market swings, a prolonged period of market inactivity, an overall disruption in market liquidity, or declines in the credit quality of the bank itself or specific major counterparties; and, we require banks to develop contingency plans accordingly.

Such precautions will greatly reduce the likelihood that significant, common market events--such as unexpectedly large and volatile fluctuations in interest or exchange rates--could either give rise to failure of an institution or have systemic consequences.

B1. What percentage of derivatives products are provided by commercial banks (i.e. what is commercial bank market share?

Commercial banks' share of derivatives markets cannot be calculated because the sizes of the markets are unknown. The limited data on derivatives that are available are not comparable to the available data on banks' derivative activities. There is no single entity of which we are aware that monitors and collects data on activities in derivatives markets domestically or worldwide; and given the customized nature of some OTC derivatives, it would be difficult to obtain completely comprehensive data on overall market activity.

However, several entities collect information that provide insight into certain kinds of derivative activity. *The World's Major Swap Dealers*, published by Swaps Monitor Publications, Inc. in November 1992, reports derivative data obtained from audited 1991 public information. (See the following table.) The report covers many, but not all, of the world's major companies active in selected derivative products. The data are on a consolidated company basis, so for U.S. firms, the data are for bank holding companies (BHC) rather than for commercial banks. The data indicate that U.S. BHCs have significant total market share in the four derivative product types. Please note, however, that the data on the volume of derivative contracts contain an unknown amount of double counting because two reporting entities involved in opposite sides of the same contract both may be included.

U.S. Bank Holding Companies
Share of World Derivative Markets
Selected Products
($ billion)

Interest rate swaps: thirty-five of the largest firms

World total	$3,275
U.S. BHC total	$1,504
U.S. BHC share	46%

Interest rate options: twenty-three of the largest firms

World total	$1,262
U.S. BHC total	$ 812
U.S. BHC share	64%

Currency swaps: sixteen of the largest firms

World total	$ 485
U.S. BHC total	$ 302
U.S. BHC share	62%

Foreign exchange forwards: forty-four of the largest firms

World total	$4,921
U.S. BHC total	$2,526
U.S. BHC share	51%

Source: The data given in the table are based on data from *The World's Major Swap Dealers*
Swaps Monitor Publications, Inc., 1992

B2. Please provide a list of commercial banks that offer derivative products. Break the information down by type of derivative product, and identify the banks that are considered dealers.

The attached tables provide the notional amount of derivative activities as of June 30, 1993, for commercial banks that engage in derivative activities. The tables report the derivatives activities of each of the 25 commercial banks with the most derivatives activities by type of activity and the other banks that also engage in the activity. These other banks are not listed separately because, while there are 591 other commercial banks reporting derivatives holdings, they account for only 4 percent of the notional amount of outstanding contracts. There are four tables reporting the notional amount of outstanding contracts for commercial banks and four identical tables for national banks.[10] The tables provide data on total derivatives activities, futures and forwards activities, swap contracts, and option contracts.

The OCC considers a bank to be a derivatives dealer when it takes on principal risk and actively provides market liquidity to customers and other dealers. By that definition, there are 10 commercial banks that are derivatives dealers. Six of those banks are national banks, which are supervised by the OCC. The six national banks are:

Citibank N.A.
Chase Manhattan Bank N.A.
Bank of America N.T.&S.A.
First National Bank of Chicago
Continental Bank N.A.
Republic National Bank of New York.

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[10] In general, the large bank holding companies conduct their derivatives activities in their lead banks. It should be noted, however, that in many instances the reported notional amount of outstanding contracts at the lead bank (which are the amounts given in the attached tables) are greater than the amount reported by the holding company. This is because the contracts that a bank enters into with other holding company subsidiaries are netted in the holding company reports.

NOTIONAL AMOUNT OF DERIVATIVE CONTRACTS OF 25
COMMERCIAL BANKS AND TRUST COMPANIES WITH MOST DERIVATIVE CONTRACTS
JUNE 30, 1993, $ MILLIONS

RANK	BANK NAME	STATE	TOTAL ASSETS	TOTAL DERIVATIVES	TOTAL FUTURES & FORWARDS	TOTAL SWAPS	TOTAL OPTIONS
1	**CHEMICAL BK**	NY	$110,375	$2,114 028	$1,241,918	$555,028	$317,082
2	**BANKERS TC**	NY	63,853	1,802,308	846,520	390,621	565,167
3	**CITIBANK NA**	NY	168,567	1,789,276	1,232,449	287,206	269,621
4	**MORGAN GUARANTY TC OF NY**	NY	103,490	1,537,466	548,185	592,063	397,218
5	**CHASE MANHATTAN BK NA**	NY	79,947	1,026,141	608,189	258,086	159,867
6	**BANK OF AMERICA NT&SA**	CA	133,970	893,546	570,700	234,213	88,633
7	**FIRST NB OF CHICAGO**	IL	34,081	457,444	276,096	106,187	75,161
8	**CONTINENTAL BK NA**	IL	22,038	169,852	61,058	52,953	55,841
9	**REPUBLIC NB OF NY**	NY	28,381	167,653	80,760	49,214	37,679
10	**BANK OF NEW YORK**	NY	35,776	92,189	65,128	12,976	14,086
11	FIRST NB OF BOSTON	MA	25,723	70,673	49,119	9,937	11,617
12	MITSUI TR BK USA	NY	755	51,560	6,013	295	45,252
13	FIRST UNION NB NC	NC	20,745	45,956	13,347	6,983	25,626
14	NATIONSBANK OF NC NA	NC	24,549	34,908	9,692	23,650	1,567
15	HARRIS T&SB	IL	10,225	32,109	21,292	2,429	8,388
16	J P MORGAN DELAWARE	DE	6,827	31,724	8,760	16,912	6,052
17	MELLON BK NA	PA	28,553	31,189	15,785	12,668	2,736
18	NATIONAL WESTMINSTER BK USA	NY	16,457	30,580	7,467	11,100	12,013
19	CITIBANK NEVADA NA	NV	4,524	27,523	2,945	3,929	20,649
20	BANKERS TR DE	DE	2,184	26,804	3,111	446	23,247
21	STATE STREET B&TC	MA	18,268	23,785	23,082	600	103
22	SEATTLE-FIRST NB	WA	15,099	20,312	11,883	8,152	277
23	PNC BANK NA	PA	36,823	19,530	775	6,977	11,778
24	BANK ONE COLUMBUS NA	OH	6,158	18,078	109	17,546	423
25	MARINE MIDLAND BK NA	NY	16,123	15,773	6,975	8,798	0
	TOP 25 COMMERCIAL BANKS & TRUST CO.S			10,530,409	5,711,358	2,668,969	2,150,082
	OTHER 591 COMMERCIAL BANKS & TRUST CO.S			418,661	106,409	226,455	85,775
	TOTAL NOTIONAL AMOUNT FOR ALL BANKS & TRUSTS			10,949,070	5,817,767	2,895,424	2,235,857

Notes: Table includes data for FDIC-insured commercial banks and trust companies.
The names of large derivative dealers are in bold.
The breakout of total derivatives excludes $22 million in commodities contracts of banks with less than $100 million in assets.

Source: Call Report Schedule RC-L

There are four state-chartered banks, supervised by the Federal Reserve Board, that are derivatives dealers. Those banks are:

Chemical Bank
Bankers Trust
Morgan Guaranty
Bank of New York.

NOTIONAL AMOUNT OF FUTURES & FORWARD CONTRACTS OF 25
COMMERCIAL BANKS AND TRUST COMPANIES WITH MOST FUTURES & FORWARD CONTRACTS
JUNE 30, 1993, $ MILLIONS

RANK	BANK NAME	STATE	TOTAL ASSETS	TOTAL FUTURES & FORWARDS	FOREIGN EXCHANGE FUTURES & FORWARDS	INTEREST RATE FUTURES & FORWARDS	OTHER FUTURES & FORWARDS
1	**CHEMICAL BK**	NY	$110,375	$1,241,918	$618,503	$623,270	$145
2	**CITIBANK NA**	NY	168,567	1,232,449	925,077	303,666	3,706
3	**BANKERS TC**	NY	63,853	846,520	422,856	420,353	3,311
4	**CHASE MANHATTAN BK NA**	NY	79,947	608,189	467,837	134,117	6,235
5	**BANK OF AMERICA NT&SA**	CA	133,970	570,700	425,034	145,666	0
6	**MORGAN GUARANTY TC OF NY**	NY	103,490	548,185	317,553	214,509	16,123
7	**FIRST NB OF CHICAGO**	IL	34,081	276,096	190,878	85,099	119
8	**REPUBLIC NB OF NY**	NY	28,381	80,760	61,291	14,704	4,765
9	**BANK OF NEW YORK**	NY	35,776	65,128	46,980	18,100	48
10	**CONTINENTAL BK NA**	IL	22,038	61,058	21,752	39,119	187
11	FIRST NB OF BOSTON	MA	25,723	49,119	24,198	24,921	0
12	STATE STREET B&TC	MA	18,268	23,082	23,054	28	0
13	HARRIS T&SB	IL	10,225	21,292	20,099	1,193	0
14	MELLON BK NA	PA	28,553	15,785	11,201	4,584	0
15	FIRST UNION NB NC	NC	20,745	13,347	3,667	9,680	0
16	SEATTLE-FIRST NB	WA	15,099	11,883	332	11,551	0
17	NATIONSBANK OF NC NA	NC	24,549	9,692	5,846	3,846	0
18	NORTHERN TC	IL	13,115	8,924	8,519	405	0
19	J P MORGAN DELAWARE	DE	6,827	8,760	0	8,760	0
20	IBJ SCHRODER B&TC	NY	7,128	7,498	20	7,478	0
21	NATIONAL WESTMINSTER BK USA	NY	16,457	7,467	3,085	4,381	0
22	BOSTON SAFE DEPOSIT & TC	MA	5,884	7,424	6,969	455	0
23	MARINE MIDLAND BK NA	NY	16,123	6,975	0	6,975	0
24	MITSUI TR BK USA	NY	755	6,013	6,013	0	0
25	WELLS FARGO BK NA	CA	49,909	5,354	340	5,014	0
	TOP 25 COMMERCIAL BANKS & TRUST CO.S			5,733,617	3,611,104	2,087,874	34,640
	OTHER 240 COMMERCIAL BANKS & TRUST CO.S			84,150	36,916	46,984	248
	TOTAL NOTIONAL AMOUNT FOR ALL BANKS & TRUSTS			5,817,767	3,648,020	2,134,858	34,888

Note: Table includes data for FDIC-insured commercial banks and trust companies.
The names of large derivative dealers are in bold.

Source: Call Report Schedule RC-L

NOTIONAL AMOUNT OF SWAP CONTRACTS OF 25
COMMERCIAL BANKS AND TRUST COMPANIES WITH MOST SWAP CONTRACTS
JUNE 30, 1993, $ MILLIONS

RANK	BANK NAME	STATE	TOTAL ASSETS	TOTAL SWAPS	INTEREST RATE SWAPS	FOREIGN EXCHANGE SWAPS	OTHER SWAPS
1	**MORGAN GUARANTY TC OF NY**	NY	$103,490	$592,063	$482,700	$92,031	$17,332
2	**CHEMICAL BK**	NY	110,375	555,028	533,612	21,203	213
3	**BANKERS TC**	NY	63,853	390,621	333,637	55,556	1,428
4	**CITIBANK NA**	NY	168,567	287,206	247,940	35,965	3,301
5	**CHASE MANHATTAN BK NA**	NY	79,947	258,086	240,946	15,274	1,865
6	**BANK OF AMERICA NT&SA**	CA	133,970	234,213	211,701	22,512	0
7	**FIRST NB OF CHICAGO**	IL	34,081	106,187	95,973	10,172	43
8	**CONTINENTAL BK NA**	IL	22,038	52,953	52,634	286	33
9	**REPUBLIC NB OF NY**	NY	28,381	49,214	17,046	31,827	342
10	NATIONSBANK OF NC NA	NC	24,549	23,650	23,650	0	0
11	BANK ONE COLUMBUS NA	OH	6,158	17,546	17,546	0	0
12	J P MORGAN DELAWARE	DE	6,827	16,912	16,738	0	174
13	**BANK OF NEW YORK**	NY	35,776	12,976	12,273	703	0
14	MELLON BK NA	PA	28,553	12,668	12,589	78	0
15	NATIONAL WESTMINSTER BK USA	NY	16,457	11,100	11,098	0	2
16	FIRST NB OF BOSTON	MA	25,723	9,937	9,880	57	0
17	MARINE MIDLAND BK NA	NY	16,123	8,798	8,718	80	0
18	BANK ONE TEXAS NA	TX	17,413	8,748	8,748	0	0
19	NATIONAL CITY BK	OH	8,834	8,412	8,412	0	0
20	FIRST INTERSTATE BK CA	CA	19,526	8,331	8,331	0	0
21	SEATTLE-FIRST NB	WA	15,099	8,152	8,152	0	0
22	AMERICAN EXPRSS CNTRN BK	DE	10,397	7,778	7,778	0	0
23	CORESTATES BK NA	PA	15,492	7,292	7,292	0	0
24	FIRST UNION NB NC	NC	20,745	6,983	6,861	122	0
25	PNC BANK NA	PA	36,823	6,977	6,977	0	0
	TOP 25 COMMERCIAL BANKS & TRUST CO.S			2,701,831	2,391,231	285,866	24,733
	OTHER 454 COMMERCIAL BANKS & TRUST CO.S			193,593	191,547	2,028	19
	TOTAL NOTIONAL AMOUNT FOR ALL BANKS & TRUSTS			2,895,424	2,582,778	287,894	24,752

Note: Table includes data for FDIC-insured commercial banks and trust companies.
The names of large derivative dealers are in bold.

Source: Call Report Schedule RC-L

NOTIONAL AMOUNT OF OPTION CONTRACTS OF 25
COMMERCIAL BANKS AND TRUST COMPANIES WITH MOST OPTION CONTRACTS
JUNE 30, 1993, $ MILLIONS

RANK	BANK NAME	STATE	TOTAL ASSETS	TOTAL OPTIONS	INTEREST RATE OPTIONS	FOREIGN EXCHANGE OPTIONS	OTHER OPTIONS
1	**BANKERS TC**	NY	$63,853	$565,167	$445,634	$95,582	$23,951
2	**MORGAN GUARANTY TC OF NY**	NY	103,490	397,218	261,606	109,307	26,305
3	**CHEMICAL BK**	NY	110,375	317,082	263,081	47,205	6,796
4	**CITIBANK NA**	NY	168,567	269,621	167,607	90,743	11,271
5	**CHASE MANHATTAN BK NA**	NY	79,947	159,867	81,755	72,324	5,788
6	**BANK OF AMERICA NT&SA**	CA	133,970	88,633	68,042	20,591	0
7	**FIRST NB OF CHICAGO**	IL	34,081	75,161	45,412	29,645	103
8	**CONTINENTAL BK NA**	IL	22,038	55,841	40,387	13,920	1,534
9	MITSUI TR BK USA	NY	755	45,252	0	45,252	0
10	**REPUBLIC NB OF NY**	NY	28,381	37,679	13,970	22,138	1,571
11	FIRST UNION NB NC	NC	20,745	25,626	25,294	332	0
12	BANKERS TR DE	DE	2,184	23,247	23,247	0	0
13	CITIBANK NEVADA NA	NV	4,524	20,649	20,649	0	0
14	**BANK OF NEW YORK**	NY	35,776	14,086	11,382	2,704	0
15	NATIONAL WESTMINSTER BK USA	NY	16,457	12,013	11,992	19	2
16	PNC BANK NA	PA	36,823	11,778	11,768	10	0
17	FIRST NB OF BOSTON	MA	25,723	11,617	9,193	2,425	0
18	HARRIS T&SB	IL	10,225	8,388	3,622	4,766	0
19	SIGNET BK VA	VA	9,160	8,131	8,129	2	0
20	FIRST UNION NB FL	FL	26,197	7,300	7,300	0	0
21	WELLS FARGO BK NA	CA	49,909	7,045	7,017	28	0
22	CITIBANK SOUTH DAKOTA NA	SD	5,776	6,201	6,201	0	0
23	J P MORGAN DELAWARE	DE	6,827	6,052	6,052	0	0
24	HUNTINGTON NB	OH	11,710	4,190	4,190	0	0
25	SHAWMUT BK NA	MA	13,410	3,818	3,816	0	2
	TOP 25 COMMERCIAL BANKS & TRUST CO.S			2,181,661	1,547,347	556,991	77,323
	OTHER 154 COMMERCIAL BANKS & TRUST CO.S			54,196	50,564	3,587	45
	TOTAL NOTIONAL AMOUNT FOR ALL BANKS & TRUSTS			2,235,857	1,597,911	560,578	77,368

Note: Table includes data for FDIC-insured commercial banks and trust companies.
The names of large derivative dealers are in bold.

Source: Call Report Schedule RC-L

NOTIONAL AMOUNT OF DERIVATIVE CONTRACTS OF 25
NATIONAL BANKS WITH MOST DERIVATIVE CONTRACTS
JUNE 30, 1993, $ MILLIONS

RANK	BANK NAME	STATE	ASSETS	TOTAL DERIVATIVES	TOTAL FUTURES & FORWARDS	TOTAL SWAPS	TOTAL OPTIONS
1	**CITIBANK NA**	NY	$168,567	$1,789,276	$1,232,449	$287,206	$269,621
2	**CHASE MANHATTAN BK NA**	NY	79,947	1,026,141	608,189	258,086	159,867
3	**BANK OF AMERICA NT&SA**	CA	133,970	893,546	570,700	234,213	88,633
4	**FIRST NB OF CHICAGO**	IL	34,081	457,444	276,096	106,187	75,161
5	**CONTINENTAL BK NA**	IL	22,038	169,852	61,058	52,953	55,841
6	**REPUBLIC NB OF NY**	NY	28,381	167,653	80,760	49,214	37,679
7	**FIRST NB OF BOSTON**	MA	25,723	70,673	49,119	9,937	11,617
8	**FIRST UNION NB NC**	NC	20,745	45,956	13,347	6,983	25,626
9	**NATIONSBANK OF NC NA**	NC	24,549	34,908	9,692	23,650	1,567
10	**MELLON BK NA**	PA	28,553	31,189	15,785	12,668	2,736
11	**NATIONAL WESTMINSTER BK USA**	NY	16,457	30,580	7,467	11,100	12,013
12	**CITIBANK NEVADA NA**	NV	4,524	27,523	2,945	3,929	20,649
13	**SEATTLE-FIRST NB**	WA	15,099	20,312	11,883	8,152	277
14	**PNC BANK NA**	PA	36,823	19,530	775	6,977	11,778
15	**BANK ONE COLUMBUS NA**	OH	6,158	18,078	109	17,546	423
16	**MARINE MIDLAND BK NA**	NY	16,123	15,773	6,975	8,798	0
17	**WELLS FARGO BK NA**	CA	49,909	14,968	5,354	2,569	7,045
18	**FIRST UNION NB FL**	FL	26,197	13,814	2,625	3,889	7,300
19	**HUNTINGTON NB**	OH	11,710	12,477	2,372	5,915	4,190
20	**CITIBANK SOUTH DAKOTA NA**	SD	5,776	11,858	2,516	3,140	6,201
21	**NATIONAL CITY BK**	OH	8,834	10,865	976	8,412	1,477
22	**CORESTATES BK NA**	PA	15,492	10,482	2,399	7,292	791
23	**TEXAS CMRC BK NA**	TX	12,430	10,338	2,383	6,007	1,948
24	**BANK ONE TEXAS NA**	TX	17,413	8,963	15	8,748	200
25	**SHAWMUT BK NA**	MA	13,410	8,043	3,771	455	3,818
	TOP 25 NATIONAL BANKS			4,920,243	2,969,760	1,144,026	806,457
	OTHER 303 NATIONAL BANKS			181,889	45,311	109,448	27,129
	TOTAL NOTIONAL AMOUNT FOR ALL NATIONAL BANKS			5,102,132	3,015,071	1,253,474	833,586

Note: Table includes data for nationally-chartered FDIC-insured commercial banks and trust companies.
The names of large derivative dealers appear in bold.

Source: Call Report Schedule RC-L

NOTIONAL AMOUNT OF FUTURES & FORWARD CONTRACTS OF 25
NATIONAL BANKS WITH MOST FUTURES & FORWARD CONTRACTS
JUNE 30, 1993, $ MILLIONS

RANK	BANK NAME	STATE	ASSETS	TOTAL FUTURES & FORWARDS	FOREIGN EXCHANGE FUTURES & FORWARDS	INTEREST RATE FUTURES & FORWARDS	OTHER FUTURES & FORWARDS
1	**CITIBANK NA**	NY	$168,567	$1,232,449	$925,077	$303,666	$3,706
2	**CHASE MANHATTAN BK NA**	NY	79,947	608,189	467,837	134,117	6,235
3	**BANK OF AMERICA NT&SA**	CA	133,970	570,700	425,034	145,666	0
4	**FIRST NB OF CHICAGO**	IL	34,081	276,096	190,878	85,099	119
5	**REPUBLIC NB OF NY**	NY	28,381	80,760	61,291	14,704	4,765
6	**CONTINENTAL BK NA**	IL	22,038	61,058	21,752	39,119	187
7	FIRST NB OF BOSTON	MA	25,723	49,119	24,198	24,921	0
8	MELLON BK NA	PA	28,553	15,785	11,201	4,584	0
9	FIRST UNION NB NC	NC	20,745	13,347	3,667	9,680	0
10	SEATTLE-FIRST NB	WA	15,099	11,883	332	11,551	0
11	NATIONSBANK OF NC NA	NC	24,549	9,692	5,846	3,846	0
12	NATIONAL WESTMINSTER BK USA	NY	16,457	7,467	3,085	4,381	0
13	MARINE MIDLAND BK NA	NY	16,123	6,975	0	6,975	0
14	WELLS FARGO BK NA	CA	49,909	5,354	340	5,014	0
15	SHAWMUT BK CONNECTICUT NA	CT	12,761	4,637	4,622	15	0
16	SHAWMUT BK NA	MA	13,410	3,771	3,655	116	0
17	FIRST BK NA	MN	13,380	3,422	1,819	1,604	0
18	NATIONSBANK OF TX NA	TX	36,911	3,354	1,878	1,476	0
19	WACHOVIA BK OF NC NA	NC	18,625	3,222	1,095	2,127	0
20	FLEET BK OF MA NA	MA	7,699	2,984	2,383	601	0
21	CITIBANK NEVADA NA	NV	4,524	2,945	0	2,945	0
22	FIRST SECURITY BK IDAHO NA	ID	3,228	2,712	0	2,712	0
23	FIRST UNION NB FL	FL	26,197	2,625	0	2,625	0
24	CITIBANK SOUTH DAKOTA NA	SD	5,776	2,516	0	2,516	0
25	NBD BK NA	MI	24,400	2,466	2,309	157	0
	TOP 25 NATIONAL BANKS			2,983,529	2,158,300	810,216	15,013
	OTHER 125 NATIONAL BANKS			31,542	10,644	20,739	159
	TOTAL NOTIONAL AMOUNT FOR ALL NATIONAL BANKS			3,015,071	2,168,944	830,955	15,172

Note: Table includes data for nationally-chartered FDIC-insured commercial banks and trust companies.
The names of large derivative dealers appear in bold.

Source: Call Report Schedule RC-L

NOTIONAL AMOUNT OF SWAP CONTRACTS OF 25
NATIONAL BANKS WITH MOST SWAP CONTRACTS
JUNE 30, 1993, $ MILLIONS

RANK	BANK NAME	STATE	ASSETS	TOTAL SWAPS	INTEREST RATE SWAPS	FOREIGN EXCHANGE SWAPS	OTHER SWAPS
1	**CITIBANK NA**	NY	$168,567	$287,206	$247,940	$35,965	$3,301
2	**CHASE MANHATTAN BK NA**	NY	79,947	258,086	240,946	15,274	1,865
3	**BANK OF AMERICA NT&SA**	CA	133,970	234,213	211,701	22,512	0
4	**FIRST NB OF CHICAGO**	IL	34,081	106,187	95,973	10,172	43
5	**CONTINENTAL BK NA**	IL	22,038	52,953	52,634	286	33
6	**REPUBLIC NB OF NY**	NY	28,381	49,214	17,046	31,827	342
7	NATIONSBANK OF NC NA	NC	24,549	23,650	23,650	0	0
8	BANK ONE COLUMBUS NA	OH	6,158	17,546	17,546	0	0
9	MELLON BK NA	PA	28,553	12,668	12,589	78	0
10	NATIONAL WESTMINSTER BK USA	NY	16,457	11,100	11,098	0	2
11	FIRST NB OF BOSTON	MA	25,723	9,937	9,880	57	0
12	MARINE MIDLAND BK NA	NY	16,123	8,798	8,718	80	0
13	BANK ONE TEXAS NA	TX	17,413	8,748	8,748	0	0
14	NATIONAL CITY BK	OH	8,834	8,412	8,412	0	0
15	SEATTLE-FIRST NB	WA	15,099	8,152	8,152	0	0
16	CORESTATES BK NA	PA	15,492	7,292	7,292	0	0
17	FIRST UNION NB NC	NC	20,745	6,983	6,861	122	0
18	PNC BANK NA	PA	36,823	6,977	6,977	0	0
19	FCC NB	DE	4,040	6,707	6,707	0	0
20	SOCIETY NB	OH	18,528	6,417	6,417	0	0
21	TEXAS CMRC BK NA	TX	12,430	6,007	6,002	0	5
22	HUNTINGTON NB	OH	11,710	5,915	5,915	0	0
23	FLEET NB	RI	7,628	4,970	4,970	0	0
24	BANK ONE MILWAUKEE NA	WI	3,280	4,373	4,373	0	0
25	CITIBANK NEVADA NA	NV	4,524	3,929	3,929	0	0
	TOP 25 NATIONAL BANKS			1,156,440	1,034,476	116,374	5,591
	OTHER 242 NATIONAL BANKS			97,034	96,793	228	13
	TOTAL NOTIONAL AMOUNT FOR ALL NATIONAL BANKS			1,253,474	1,131,269	116,602	5,604

Notes: Table includes data for nationally-chartered FDIC-insured commercial banks and trust companies.
The names of large derivative dealers appear in bold.

Source: Call Report Schedule RC-L

NOTIONAL AMOUNT OF OPTION CONTRACTS OF 25
NATIONAL BANKS WITH MOST OPTION CONTRACTS
JUNE 30, 1993, $ MILLIONS

RANK	BANK NAME	STATE	ASSETS	TOTAL OPTIONS	INTEREST RATE OPTIONS	FOREIGN EXCHANGE OPTIONS	OTHER OPTIONS
1	**CITIBANK NA**	NY	$168,567	$269,621	$167,607	$90,743	$11,271
2	**CHASE MANHATTAN BK NA**	NY	79,947	159,867	81,755	72,324	5,788
3	**BANK OF AMERICA NT&SA**	CA	133,970	88,633	68,042	20,591	0
4	**FIRST NB OF CHICAGO**	IL	34,081	75,161	45,412	29,645	103
5	**CONTINENTAL BK NA**	IL	22,038	55,841	40,387	13,920	1,534
6	**REPUBLIC NB OF NY**	NY	28,381	37,679	13,970	22,138	1,571
7	FIRST UNION NB NC	NC	20,745	25,626	25,294	332	0
8	CITIBANK NEVADA NA	NV	4,524	20,649	20,649	0	0
9	NATIONAL WESTMINSTER BK USA	NY	16,457	12,013	11,992	19	2
10	PNC BANK NA	PA	36,823	11,778	11,768	10	0
11	FIRST NB OF BOSTON	MA	25,723	11,617	9,193	2,425	0
12	FIRST UNION NB FL	FL	26,197	7,300	7,300	0	0
13	WELLS FARGO BK NA	CA	49,909	7,045	7,017	28	0
14	CITIBANK SOUTH DAKOTA NA	SD	5,776	6,201	6,201	0	0
15	HUNTINGTON NB	OH	11,710	4,190	4,190	0	0
16	SHAWMUT BK NA	MA	13,410	3,818	3,816	0	2
17	MARYLAND NB	MD	11,758	3,509	3,500	9	0
18	MELLON BK NA	PA	28,553	2,736	1,786	951	0
19	NATIONSBANK OF GA NA	GA	14,936	2,142	1,990	152	0
20	UNITED STATES NB	OR	10,809	2,014	2,014	0	0
21	TEXAS CMRC BK NA	TX	12,430	1,948	1,941	6	0
22	SHAWMUT BK CONNECTICUT NA	CT	12,761	1,889	1,888	0	2
23	FIRST SECURITY BK OF UTAH NA	UT	4,480	1,684	1,684	0	0
24	NATIONSBANK OF NC NA	NC	24,549	1,567	914	653	0
25	NATIONAL CITY BK	OH	8,834	1,477	1,471	6	0
	TOP 25 NATIONAL BANKS			816,003	541,779	253,951	20,273
	OTHER 78 NATIONAL BANKS			17,583	16,640	910	33
	TOTAL NOTIONAL AMOUNT FOR ALL NATIONAL BANKS			833,586	558,419	254,861	20,306

Notes: Table includes data for nationally-chartered FDIC-insured commercial banks and trust companies.
The names of large derivative dealers appear in bold.

Source: Call Report Schedule RC-L

B3. Are bank derivatives activities profitable? How important are derivatives-related products to overall bank profitability?

There are currently no comprehensive or systematic sources of data on the profitability of bank derivatives activities that are comparable across banks or banking companies. Our examiners monitor the level of a bank's risk and the quality of its risk management associated with derivatives activities in relation to the bank's other activities (*e.g.*, trading, dealing, and treasury functions); therefore, our analysis does not require banks to separately identify profits from their derivatives and non-derivatives activities. Moreover, it is difficult for most companies, including banks, to allocate costs to earnings in a way that allows them to correctly measure profits in a specific segment of their business, particularly when that business is intimately linked to other activities in which the company is engaged. Therefore, we cannot provide an industry analysis of whether derivatives activities are profitable or how important they are to overall bank profitability. However, the observation that bank derivative activity is highly skewed toward the largest banks leads us to infer that bankers at these institutions engage in derivative activity because it is or will become profitable, or because it will help the bank in other ways, such as by reducing interest rate risk or foreign exchange rate risk, or by serving customer needs.

Publicly disclosed data sources such as the regulatory reports of financial condition (Call Reports) or SEC filings do not provide information that would enable us to calculate the profitability of bank derivatives activities. Revenues and expenses from derivatives do not appear as separate items on the Call Report. All of the reported income and expense categories, including the interest income, interest expense, and other noninterest income and expense categories, include many activities besides derivative product activity, so we cannot isolate derivative profitability. For example, within the noninterest income category, derivative activity can affect income from foreign exchange transactions and other noninterest income. Furthermore, regulators do not require banks to report operating expenses--items such as salaries, rent, and supplies--by product line.

Public reports filed by banks or their holding companies with the SEC--annual reports, 10-K's, and other SEC filings--sometimes provide information about derivative activity, but such disclosure is neither complete nor systematic, and it does not address derivative profitability.

Other potential sources of information on the profitability of bank derivatives activity include trade groups and investment analysts. Trade group surveys can be helpful, but we have found that they are not comprehensive and do not provide profitability information. Investment company analysts sometimes publish company-specific derivative information, either obtained from the company's management or inferred from analysis of financial statements. Analysts' reports contain information for certain

individual banks, but they do not address the profitability of derivatives activities overall.

C1. What are the pro's and con's related to the concentration of bank derivative activities in a handful of large money center banks?

Large institutions are more likely than smaller institutions to have the resources that are necessary to implement sophisticated systems for managing the complexities that are often inherent in derivatives portfolios. Large institutions are also more likely to hold large capital bases to absorb potential losses. Market participants appear to favor the existing degree of concentration, which is largely driven by dealer activities, because of their need to have strong, highly-rated, and sophisticated counterparties. Moreover, the concentration of derivatives activities in a few large institutions facilitates the regulatory supervision of these activities.

Some observers have argued that the concentration of derivatives activity in only a small number of institutions enables those firms to extract abnormally large profits from derivatives transactions, at the expense of their customers. There are, however, several large U.S. non-bank financial institutions that compete with banks in derivatives markets. There are also a large number of foreign bank and non-bank financial institutions, including major banks and securities firms in the United Kingdom, Japan, France, and Switzerland, participating in those markets. Overall, we believe that there are sufficient numbers of market players to ensure competitive pricing.

C2. For each of the ten largest bank derivatives dealers, indicate the credit exposure related to derivatives as a percentage of the banks capital.

The attached table provides data, based on bank Call Reports, on the credit exposure and capital of the 10 commercial banks that are derivatives dealers. The tables are based on the risk-based capital definition of the credit equivalent amount of derivatives activities. This calculation includes the amount of money it would cost the bank to replace its contracts and an add-on estimate of potential future credit exposure.

These estimates differ significantly from banks' internal estimates of their credit exposure because they do not take into account some contractual provisions that reduce credit risk exposure. For example, these estimates do not consider the presence of collateral, which may eliminate the credit risk. The estimates also only reflect the netting of contracts with a single counterparty where netting by novation is possible. A bank's overall net position to a single counterparty may be significantly less than the exposure reflected in these estimates. In evaluating these data, therefore, it is important to note that the credit exposure calculation represents a "worst case" scenario because it is based on the assumption that all counterparties would default on the reported contracts.

Finally, OCC's examiners in dealer banks report that, thus far, the credit loss experience from derivatives activities compares quite favorably with the loss experience associated with traditional lending activities. In all likelihood, the lower loss rate reflects at least in part the emphasis derivatives market participants place on the creditworthiness of counterparties.

CREDIT EQUIVALENT EXPOSURE OF THE 10 LARGEST BANK DERIVATIVES DEALERS
JUNE 30, 1993, $ MILLIONS, RATIO IN PERCENT

RANK	BANK NAME	STATE	TOTAL ASSETS	TOTAL DERIVATIVES	REPLACEMENT COST CREDIT EXPOSURE	ESTIMATED POTENTIAL CREDIT EXPOSURE	TOTAL CREDIT EQUIVALENT EXPOSURE	CREDIT EXPOSURE TO CAPITAL RATIO
1	CHEMICAL BK	NY	$110,375	$2,114,028	$23,947	$7,938	$31,885	268%
2	BANKERS TC	NY	63,853	1,802,308	21,784	7,735	29,519	571
3	CITIBANK NA	NY	168,567	1,789,276	26,466	11,684	38,150	230
4	MORGAN GUARANTY TC OF NY	NY	103,490	1,537,466	27,565	10,367	37,931	458
5	CHASE MANHATTAN BK NA	NY	79,947	1,026,141	16,679	6,362	23,041	269
6	BANK OF AMERICA NT&SA	CA	133,970	893,546	16,253	5,468	21,721	146
7	FIRST NB OF CHICAGO	IL	34,081	457,444	7,548	2,596	10,144	269
8	CONTINENTAL BK NA	IL	22,038	169,852	2,050	415	2,465	91
9	REPUBLIC NB OF NY	NY	28,381	167,653	1,892	848	2,740	104
10	BANK OF NEW YORK	NY	35,776	92,189	1,214	490	1,703	41

Notes: Replacement cost credit exposure and estimated potential credit exposure excludes exchange-traded contracts with daily margin requirements, individual contracts netted bilaterally through novation, and foreign exchange contracts with original maturities of 14 days or less.
Potential future credit exposures are estimated using the calculations in the OCC's risk-based capital standards.

Source: Call Report Schedules RC-L & RC-R

C3. Does your agency have defined criteria that must be met before a bank can offer derivative products? Do banks need to notify your agency prior to becoming a dealer in derivative products?

Under current regulations, national banks are not required to notify the OCC prior to becoming a dealer in derivative products. Rather, our examiners evaluate a bank's entrance into the market as a derivatives dealer through the normal supervisory process. Of the limited number of national banks involved in derivative products, only a few of the larger banks function as derivatives dealers. The OCC's ongoing supervision of the larger national banks ensures that none of these banks enter the derivatives market in a dealer capacity without prior discussions with representatives of the OCC.

The criteria used by the OCC to decide whether a bank can become a dealer in derivative products include the bank's management ability and degree of capital adequacy. The OCC evaluates these two factors as they relate to the various risks posed to which an institution is exposed as a result of engaging in derivative transactions.

The OCC evaluates management ability through an assessment of risk governance by senior management and the board. Senior management and the board should review, where applicable, descriptions of the relevant financial products, markets, and business strategies; an analysis of the risks that may arise from the activities; the procedures for monitoring and controlling those risks; the relevant accounting guidelines; and a legal opinion as to whether the activities are permissible. Senior management and the board must also ensure that proper controls such as operating procedures and audit coverage are in place before the bank initiates derivatives transactions.

D1. How does your agency define and identify speculation? Are there any rules or regulations involving bank speculation with derivative products?

A speculator is a market participant who, by establishing an open position in a market or markets, seeks to profit from market movements. Speculators provide an important source of liquidity to financial markets by accommodating other market participants who do not choose to take a view on market movements.

We expect banks to monitor and limit the degree to which they take unhedged positions, and some banks establish special units within the bank to conduct such activities. OCC examiners pay special attention to open positions.

As the response to Questions D2 and D3 describes, for the six national banks that are dealers in derivative products, approximately 10 percent of their derivatives activities represent transactions that are entered into for the bank's own risk management. Risk management activities include derivative transactions entered into for hedging purposes. In all cases, derivatives activities must be conducted in a manner that is consistent with safe and sound banking practices.

OCC does not have policies that specifically address bank speculation using derivative products. However, OCC policy requires all national banks whose activities involve risk-taking to adequately measure and monitor their risk, and to control their risk by setting and adhering to formal risk limits, and to hold adequate capital against their risk exposures. The forthcoming banking circular on risk management of financial derivatives will make clear the need for all national banks engaged in derivatives activities to have adequate systems for measuring, monitoring, and controlling the risks from those activities. Furthermore, the circular will state that banks whose derivatives activities involve active position-taking should have adequate risk measurement systems that facilitate scenario testing and enable management to assess the potential impact of various changes in market factors on the value of earnings and capital.

D2. What percentage of bank derivative transactions are related to a) market making functions? b) speculation? c) risk arbitrage?

D3. To what extent do banks enter into derivatives contracts to hedge or square positions on their own balance sheets?

Data of this type are not reported in any centralized location and are only available through the examination process. Therefore, we can only provide data about the banks for which we have supervisory responsibility.

For the six national banks that are dealers in derivative products, approximately 90 percent of their derivatives activities are entered into as part of the banks' market-making functions, and approximately 10 percent of those activities represent transactions that are entered into for the banks' own risk management.

The aggregate breakout of activities by purpose masks a great deal of variation. The breakout varies significantly across institutions, within an institution across products, and within and across institutions over time. Moreover, we cannot use these data to determine the extent to which the transactions that banks enter into for risk management purposes are related to market-making functions, speculation, or risk arbitrage. In general, banks enter into derivatives activities to manage their risk profiles.

D4. What percentage of bank derivatives transactions are entered into with a) other market makers? b) financial versus nonfinancial end-users? c) existing bank customers? d) for the bank's proprietary purposes?

Data of this type are not reported in any centralized location and are available only through bank examiners. Therefore, the OCC can only provide data about the banks for which we have supervisory responsibility.

As stated in the response to Questions D2 and D3, for the six national banks that are dealers in derivative products, approximately 90 percent of the derivatives activities are entered into as part of the banks' market-making functions. Approximately 10 percent of those activities are for the banks' own risk management, which includes both position-taking (*e.g.*, proprietary trading) and risk reduction activities. Approximately 55 percent of their counterparties are other market makers. The other 45 percent of counterparties are end-users. Of those end-users, 47 percent are financial end-users and 53 percent are non-financial end-users. All of those end-users are existing bank customers.

This aggregate breakout of derivatives activities by counterparties masks a great deal of variation. The types of counterparties vary significantly across institutions, within an institution across products, and within and across institutions over time.

E1. What are the pro's and con's of requiring banks to establish separately capitalized subsidiaries to engage in derivatives activities?

A number of banks have communicated to us what they believe would be the advantages to establishing separately capitalized subsidiaries to engage in derivatives activities. The derivatives markets exert substantial pressure on participants to be highly creditworthy, and bankers have argued that a separately capitalized subsidiary that garnered a higher credit rating than the parent bank could enable them to increase the credit quality of their derivatives transactions. A higher rating could also result in reduced funding and transaction costs. As a result, the investment of capital in an operating subsidiary could be more efficient than a comparable investment in the bank, and could generate improved revenue streams for the parent as well as better product and pricing alternatives for the bank's customers.

The OCC does not believe, however, that all national banks should be required to establish separately capitalized subsidiaries to engage in derivatives activities. National banks can effectively manage the risks involved in derivative activities in the bank itself if proper risk management systems are in place.

Moreover, all banks engaging in derivatives activities already face several powerful constraints that encourage risk management. As noted above, the derivatives markets exert powerful discipline on participants to be highly creditworthy, either by maintaining high credit ratings or by dedicating high-quality collateral to each transaction. The depositor preference provisions of the Omnibus Budget Reconciliation Act of 1993 give further incentive to bank participants in derivatives markets to be creditworthy. Because the Act subordinates all the bank's non-deposit creditors to the deposit insurance fund in the event of a bank failure, market participants are likely to enter into transactions with a bank counterparty only where the threat of the bank's failure is minimal. Additionally, the OCC's policies require banks to have limits regarding collateral for derivatives transactions, in order to protect the liquidity of the bank. The OCC also requires banks to have strong policies and procedures to measure, monitor, and control their risks associated with their risk-taking activities, including their derivative activities.

Requiring banks to establish separately capitalized subsidiaries to conduct derivatives activities would impose costs that could be high enough to prevent certain banks, particularly small end-user banks, from engaging in derivatives activities that would enable them to enhance their safety and soundness by more effectively managing their risk.

E2. In providing derivatives products, to what extent does deposit insurance provide banks with an advantage or disadvantage over nonbank competitors?

Deposit insurance does not provide banks with a clear advantage over non-bank competitors in the derivatives market. Although the existence of deposit insurance enables banks to attract funds, sometimes more cheaply than their competitors, it also imposes considerable costs. For example, banks pay insurance premiums on their insured deposits, and face a greater degree of regulation and supervision as compared to many of their competitors. Furthermore, deposit insurance does not protect parties to a derivatives transaction from risk of loss, and thus does not provide banks with any direct advantage over non-bank competitors in that regard.

The enactment of the depositor preference provision of the Omnibus Budget Reconciliation Act of 1993 appears to have reduced any indirect competitive advantage that banks may have had in the past by transferring more of the cost of bank failures to banks' creditors and counterparties. This risk transfer increases the risk premium banks pay to uninsured creditors, thereby altering the pricing of derivatives by the banks' counterparties and creating the potential for an increase in both the spread and collateralization required of banks.

RESPONSES TO QUESTIONS ON THE SAFETY AND SOUNDESS ISSUES ASSOCIATED WITH BANK DERIVATIVES ACTIVITIES

A1. Does the OCC currently encourage or discourage national banks from setting up separately capitalized subsidiaries to engage in derivatives-related activities? Over the past several years, how many national banks applied to establish separately capitalized subsidiaries to engage in derivative-related activities? Has the OCC acted on those applications? Please explain the reasons the OCC approved or denied each application? Has the OCC encouraged banks to withdraw such applications?

The OCC has received and approved applications in the past five years from nine banks wishing to establish or expand consolidated subsidiaries that have separate capital and conduct derivatives-related activities.[1] The OCC approved the applications from those banks because establishment of the subsidiaries appeared to be consistent with prudent banking principles, was legally permissible, and conformed to OCC policy. These subsidiaries are only allowed to perform activities that can be carried out by the parent bank. Most of the applications were approved subject to certain conditions relating to the operations of the subsidiary and the investment of the parent in the subsidiary.[2]

The OCC does not believe that it is necessary for national banks to establish separately capitalized subsidiaries to engage in over-the-counter (OTC) derivatives activities. Some traditional banking activities, like some derivatives activities, involve risks that are significant and that require sophisticated risk management systems. Our concern is that banks successfully measure, monitor, and control the risks from those activities, whether they are conducted within the bank itself, or in a separately-capitalized subsidiary of the bank.

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[1] In each of these cases, the banks have established or acquired operating subsidiaries that are either a Securities and Exchange Commission (SEC)-registered broker-dealer or a Commodities Futures Trading Commission (CFTC)-registered futures commission merchant to engage primarily in exchange-related derivatives activities. Those subsidiaries are engaged in one or more of the following activities: (1) providing brokerage and futures commission merchant services; (2) maintaining membership on exchanges and acting as a clearing member; (3) providing margin financing from a bank branch office; (4) engaging in securities lending by borrowing securities from third parties to re-lend to customers; and (5) holding seats on various exchanges to lease to trading customers.

[2] For example, such conditions limit permissible activities and the size of the bank's investment in the subsidiary, require the bank to establish written policies and internal controls and comply with applicable OCC guidance, prohibit the bank from acquiring a clearing house membership, and require the bank to seek OCC approval of certain changes in circumstances or expansion in activities.

We also recognize, however, that some banks may prefer to conduct their OTC derivatives-related activities in separately-capitalized subsidiaries. Under certain circumstances, a subsidiary can receive a credit rating that is higher than that of the parent bank. Because counterparty credit quality has become increasingly important in the OTC derivatives business, a higher credit rating would allow the subsidiary to conduct business with higher quality counterparties and engage in a greater volume of business than could the bank. This would allow the bank to improve its own risk management, the quality of its customer service, and its potential profitability. In addition, the bank would be able to use its capital more efficiently, improve its profitability, and possibly improve its liquidity due to the decreased need for collateral.

The OCC has received only two applications from banks seeking to establish subsidiaries that were to be structured so that they would receive higher credit ratings than the parent banks. The banks decided to withdraw their applications before we acted on them.

We understand that an increasing number of non-bank financial institutions and foreign banks are considering the establishment of separately-capitalized subsidiaries that would engage in OTC derivatives activities. Each of these subsidiaries would be structured to obtain a credit rating higher than that of the parent financial institution. Accordingly, we anticipate increased interest in such structures by national banks.

The OCC would consider any future applications from national banks wishing to establish such subsidiaries case-by-case. In each case, we would carefully consider the decreased availability of the subsidiary's assets to the FDIC in the event of failure of the parent bank, as well as the benefits such an arrangement could provide. The OCC would also carefully evaluate the financial and managerial soundness of the parent bank.

A2. How does a bank's credit rating affect its ability to provide derivatives products to its customers? How does a bank's credit rating affect its ability to perform market making functions in derivative products?

Ratings by nationally-recognized statistical rating services have a significant influence on both the class of customers that are available to a bank and the terms under which its business may be conducted. This becomes a significant issue when a bank is rated lower than the equivalent of an AA rating from Moody's or Standard & Poor's. Many highly rated institutions will not engage in derivatives transactions with lower-rated counterparties; others either limit transactions with lesser-rated entities, require significant credit enhancements, or require more favorable terms. When a highly-rated customer chooses to conduct derivatives business with a lower-rated bank, the transaction may be executed on terms which provide pricing, payment, timing and collateral benefits to the higher-rated party. Indeed, when business is conducted between counterparties that have different ratings, or when one counterparty believes that the other counterparty may receive a lower rating in the future, it is not unusual for derivatives contracts to contain provisions that will permit the stronger counterparty to alter the contract terms in the event of a ratings downgrade.

A deterioration in a bank's credit rating affects its ability to function as a market maker in several ways: (1) by increasing the price it must pay to obtain a derivatives contract; (2) by forcing the bank to shorten the maturity of contracts; (3) by increasing the likelihood that the bank's attempts to secure contracts through the broker market will be rejected; and (4) by imposing collateralization requirements, and hence additional costs, on the bank.

A weak credit rating also affects a bank's ability to offset customer transactions, adversely affecting its ability to competitively price its customer's trades and complicating the bank's own risk management.

A bank can offset the negative affects of poor credit ratings on its derivatives business by conducting the business through a separately-capitalized subsidiary of the bank. In those cases, rating services assign a higher credit rating to a well-capitalized subsidiary than to the parent bank. In some cases, the subsidiary's rating is as much as two rating classes higher than that of the parent bank.

In general, each separately-capitalized subsidiary is individually evaluated by the ratings services. However, reflecting the market's belief that the FDIC may draw on the assets of the subsidiary in the event of failure of the parent bank, the rating services will probably continue to tie the (higher) rating of the subsidiary to the rating of the bank regardless of the capitalization of the subsidiary.

B1. What percentage of bank derivative transactions are arranged over-the-counter (OTC) as opposed to being arranged through an organized exchange? What percentage of bank OTC transactions are between market-makers versus OTC transactions between market-makers and their customers?

The information needed to answer this question on an industry-wide basis is not available. OCC examiners surveyed the six national banks that we have identified as derivatives dealers and found that for those banks, on average, 79 percent of derivatives transactions are OTC; and the remaining 21 percent are exchange-traded.[3] From that same survey, our examiners found that, on average, 60 percent of the OTC derivatives transactions are between market-makers; and 40 percent are transactions between market-makers and their customers.

[3] Those six national banks account for 88 percent of the total outstanding derivatives contracts held by national banks, when measured in notional amounts.

B2. What are the differences in the markets, and what special supervisory issues arise as result of the differences in the markets?

The markets for exchange-traded derivatives (futures and options) differ from OTC markets for derivatives instruments in several key respects. Futures exchanges provide a marketplace for trading standardized contracts, and require the value of each position to be reconciled to the market, or marked-to-market, at the end of each trading day. Any such change in value is paid to, or received from, the clearing house of the futures exchange (through its clearing members) at the end of each day. All futures market participants are required to post a performance bond (initial margin) by the opening of business on the day after the contract is established, equal to a certain percentage of the notional principal amount of the contracts. If the value of the position falls, causing the margin account to decrease below a pre-set maintenance level, the clearing house requires the contract holder to make payment to bring the margin account back up to the initial margin level. These features--standardized contracts, daily settlement of gains and losses, the role of the clearing house as counterparty to all trades, and the initial margin requirement--significantly reduce the counterparty credit risks of exchange-traded derivatives as compared to OTC derivatives. The latter are customized instruments which are individually negotiated and tend to have longer maturities and greater potential counterparty risk. OTC derivatives contracts do not contain standard margin requirements.

The relative growth of OTC derivatives markets in recent years has added a different dimension to systemic risk in the U.S. and global banking system. As we stated in our response to the first set of the Committee's questions, which we submitted on October 26, 1993, the OCC believes that the best defense against systemic risk is for each bank to implement effective risk management systems. Those systems should ultimately include limits and controls and the ability to actively monitor interconnection risk resulting from covariances between one or more risk factors. Banking Circular 277, which the OCC released on October 27, 1993, emphasizes the need for all banks to have risk management systems in place that are sufficient to measure, analyze, and control each of the risks arising from derivatives activities, and to have sufficient capital to absorb potential losses from those risks. The OCC plans to issue additional examiner guidance on these issues within the next few months.

B3. To what extent does your agency interface/cooperate with exchange officials (e.g. NYSE, CBOT, etc.) associated with bank exchange related activities?

From time to time, OCC officials have met with officials of various exchanges concerning issues related to bank exchange-related activities of mutual interest. For example, staff have met to discuss bank guarantees of subsidiary obligations arising from the subsidiary's exchange or clearing corporation membership; legal or regulatory constraints on exchange contract specifications or the contracts that may be brokered by the bank's subsidiaries; and the effect of bank involvement in equity index contracts on the 1987 stock market crash. We have not met frequently, but our encounters have been cooperative.

B4. To what extent does your agency interface/cooperate with the Commodities Futures Trading Commission (CFTC) and the Securities Exchange Commission (SEC) related to bank derivatives activities?

Recent legislation has enabled the CFTC to exempt a number of bank derivatives transactions from the requirements of the Commodity Exchange Act, as amended. To promote interagency coordination, however, OCC staff have met frequently with CFTC staff members to discuss bank-related derivatives market activities and rulemakings. For example, we have had extensive discussions regarding OTC derivatives. To a lesser extent, we have met with CFTC staff to consult with them about their regulatory processes.

Our contacts with SEC staff on various securities and securities dealer issues are extensive. However, because the SEC has only limited jurisdiction over bank-related derivatives activities, we have had less contact with SEC staff regarding those issues.

B5. Please identify exchange-related clearing organizations, their function and bank membership in clearing organizations? Who performs the exchange or clearing organization function in the OTC market?

Futures and options transactions are cleared through a variety of exchange-related clearing organizations, as indicated in the tables on the following two pages.

A futures exchange clearing house serves as the counterparty to each party engaging in a futures transactions conducted on an exchange. It tracks all the transactions that take place on the exchange during the trading day and then calculates the net position of each of its members at the end of each day. The clearing house guarantees the settlement of matched trades. It ensures that it can fulfill its guarantee function by requiring its members to maintain a margin account with the clearing house (the clearing margin). The margin account for each clearing house member is adjusted for gains and losses at the end of each trading day. In addition, clearing members generally are required to make a deposit to a guarantee fund which further supports the obligations of the clearing house. Furthermore, clearing houses generally have the authority to assess their non-defaulting members for losses arising out of the defaults of other clearing members.

The Options Clearing Corporation performs a similar function for the organized options exchanges. It guarantees that the option writer will fulfill its obligations under the terms of the options contract, and it records all long and short positions.

All options trades must be cleared through a clearing house member. Members are required to have a certain minimum amount of capital and to contribute to a special fund that can be used if any member defaults on an option obligation. The Options Clearing Corporation also requires its members to maintain margin accounts.

The OCC does not allow banks to be members of clearing organizations, because they would be required to pledge their capital to guarantee clearing house transactions. OTC derivatives transactions are customized, privately negotiated contracts. In general, each party to an OTC transaction assumes full responsibility for the performance of the contract. As the response to question B6 describes, participants in OTC markets often use legally enforceable netting agreements to reduce counterparty credit exposure.

TABLE 1

FUTURES EXCHANGES AND CLEARING HOUSES IN THE U.S.

Currently Active Futures Markets	*Clearing Houses*
Chicago Board of Trade	Board of Trade Clearing Corporation (BOTCC)
Chicago Mercantile Exchange (CME)	CME Clearing House Division
New York Mercantile Exchange (NYMEX)	NYMEX Clearing House Division
Commodity Exchange, Inc. (COMEX)	COMEX Clearing Association, Inc.
Coffee, Sugar & Cocoa Exchange	Commodity Futures Clearing Corporation of New York
New York Cotton Exchange	Commodity Clearing Corporation
New York Futures Exchange	Intermarket Clearing Corporation (ICC)
MidAmerica Commodity Exchange	BOTCC
Kansas City Board of Trade (KCBOT)	KCBOT Clearing Corp.
Minneapolis Grain Exchange (MGE)	MGE Clearing House Division
Philadelphia Board of Trade	ICC

TABLE 2

OPTIONS EXCHANGES AND CLEARING HOUSES IN THE U.S.

Options Markets	*Clearing Houses*
New York Stock Exchange	Options Clearing Corporation
Pacific Stock Exchange	Options Clearing Corporation
Philadelphia Stock Exchange	Options Clearing Corporation
Chicago Board Options Exchange	Options Clearing Corporation
American Stock Exchange	Options Clearing Corporation

B6. How do the parties to a derivatives contract ensure contract performance in the OTC market?

Unlike exchange-traded derivatives contracts, the performance of OTC contracts are not guaranteed by a clearing house. Therefore, participants in OTC markets perform normal credit analysis to determine whether credit enhancements are necessary prior to entering into transactions.

OTC market participants tend to customize their contracts to include specific arrangements for reducing the risk of non-performance by their counterparties. Such arrangements vary with the specific risks associated with the counterparty, but can include the collateralization of transactions and the use of legally enforceable netting agreements. The International Swap Dealers Association (ISDA) has designed a master agreement for OTC contracts which includes a standard bilateral netting provision through which the parties to the contract agree to substitute one net payment obligation for mutual obligations to pay and receive on the same day. This minimizes the risk of non-performance by reducing the amounts and number of payments due on any given date. The master ISDA form of agreement also includes negotiable provisions which permit the parties to determine in advance what rights and obligations default or early termination will trigger. A similar master agreement has been developed for foreign exchange transactions.

Market participants can also minimize the credit risk related to OTC contracts by avoiding concentrations with respect to a particular counterparty or type of counterparty.

Banking Circular 277 requires national banks to develop policies and procedures to implement such controls, in order to ensure performance of their OTC derivatives contracts. In particular, the Circular states that national banks should: (1) have policies and procedures that address significant counterparty exposures, concentrations, and risk ratings; (2) determine that counterparties have the legal authority to enter into derivatives contracts; and (3) carefully evaluate the risks of entering into agreements that include early termination provisions clauses that would allow a counterparty to terminate an agreement upon deterioration of the bank's financial condition. The OCC will monitor national banks' compliance with this guidance during regularly scheduled examinations.

National banks will also be able to reduce the risk of non-performance by entering into multilateral netting agreements, as those arrangements become available. In a multilateral netting agreement, as in the case of a clearing house for a futures or options exchange, participants settle all transactions that originate bilaterally through a central party or clearinghouse mechanism which becomes the legal counterparty for each participant. Any loss associated with a default by a single member would be

covered by the clearinghouse and/or its participants. Such agreements can provide a mechanism through which participants in the OTC market can actually ensure performance on derivatives contracts rather than simply reducing the risk of default. However, Banking Circular 277 requires that any such clearing house, organization, or facility meet the conditions set forth in the Report of the Committee on Interbank Netting Schemes of the Central Banks of the Group of 10 Countries (Lamfalussy Report) dated November 1990.

C1. How many derivatives products (quantity and notional value) do dealer banks sell to their existing discretionary trust customers? nondiscretionary trust customers? What is the income from those transactions?

Banks do not report information on their Call Reports that would enable us to answer this question on an industry-wide basis. Call Report data reflects bank trust activity only to the extent that such activity generates fee income for the banks, and banks do not separately report the component of fiduciary fee income that relates to derivatives activity. (Banks with total assets of less than $100 million and with domestic offices only report their fiduciary fee income together with other non-fiduciary fee income. All other banks only report total fiduciary fees.)

We note that the Employee Retirement Income Security Act (ERISA) prohibits certain transactions between the bank or the holding company and the trust, *i.e.*, when trust funds are pension plan assets of pension funds covered by ERISA.

C2. Are there any rules governing the sale of derivative products to a bank's discretionary or nondiscretionary trust customers?

OCC does not have specific rules concerning the sale of derivative products to a bank's trust customers. However, there are OCC rules that protect trust customers from the conflicts of interest that arise when a bank purchases any of its own assets, including derivative products, for its trust accounts.[4] Those rules apply to all accounts for which a bank has the authority to make investments, or to give investment advice.

As noted above, ERISA prohibits certain transactions between the bank and the trust, *i.e.*, when trust funds are pension plan assets of pension funds covered by ERISA.

In addition, Banking Circular 277 states that the credit officers responsible for establishing and approving financial derivatives credit lines should understand the applicability of financial derivatives instruments to the risks the bank customer is attempting to manage. This would include the bank's trust area acting in a fiduciary capacity.

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[4] Such purchases are governed by 12 CFR 9.12(a), which provides:

> (a) Unless lawfully authorized by the instrument creating the relationship, or by court order or by local law, funds held by a national bank as fiduciary shall not be invested in stock or obligations of, or property acquired from, the bank or its directors, officers or employees, or individuals with whom there exists such a connection, or organizations in which there exists such an interest, as might affect the exercise of the best judgment of the bank in acquiring the property, or in stock or obligations of, or property acquired from affiliates of the bank or their directors, officers or employees.

C3. In your opinion, is it a conflict of interest for a bank to sell derivatives products to its discretionary or nondiscretionary trust customers?

A conflict of interest arises when a bank purchases its own products, including derivatives products, for fiduciary accounts, *(i.e.* those accounts for which it has investment responsibility or to which it gives investment advice or recommendations.) The OCC regulation which we cited in response to Question C2 regulates such practice in a way that we believe reflects established principles of the law of trusts. Ensuring that banks comply with this regulation has been one of the main elements of OCC supervision of national bank fiduciary activities.

D1. To what extent do foreign banks act as a dealer in derivatives products in the U.S.?

D2. Do agencies and branches of foreign banks act as dealers of derivative products?

Data about the extent to which foreign banks act as dealers in derivatives products[5] in the United States are not available. However, some information on notional amounts of outstanding contracts for certain derivatives products is available. Table 3, which we submitted with the October 26 response, lists the 25 U.S. and foreign owned holding companies with the largest amounts of derivatives contracts, as measured by notional values. Three of those holding companies (marked with asterisks in the table) are U.S. subsidiaries of foreign entities.

In addition, some foreign banks' U.S. branches and agencies are active in derivatives markets, and a small number act as dealers.[6] Table 4 lists the 25 largest branches or agencies of foreign banks, ranked by notional value of outstanding derivatives contracts. They hold notional values comparable to those of the middle third of the holding companies listed in Table 3.

Among the federal branches and agencies of foreign banks for which the OCC is the primary supervisor, only three branches out of 73 are derivatives dealers. Moreover, our examiners have found that in those three branches, the current volume of such direct dealing is relatively modest. The transactions in which these dealer branches of foreign banks currently engage include interest rate swaps, interest rate options, foreign exchange options, caps and floors, and Eurodollar futures.

Many agencies and branches of foreign banks operating in the U.S. are end-users of derivatives products. In general, they purchase derivatives products to enable them to better manage the asset and liability risks within their own businesses, including other offices of the bank.

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[5] As stated in the October 26 response, the OCC considers an entity to be a derivatives dealer when it takes on principal risk and actively provides market liquidity through price quotes both to customers and other dealers.

[6] These are in addition to the 10 U.S.-chartered commercial banks that were identified as dealers in the October 26 response.

TABLE 3

25 Holding Companies with the Most Derivatives Contracts
(June 30, 1993 data, Notional Amounts, $ in millions)

RANK	HOLDING COMPANY NAME	STATE	ASSETS	TOTAL DERIVATIVES	TOTAL FUTURES & FORWARDS	TOTAL SWAPS	TOTAL OPTIONS
1	CHEMICAL BANKING CORPORATION	NY	$145,522	$2,117,385	$1,245,500	$554,257	$317,628
2	BANKERS TRUST NEW YORK CORPORATION	NY	83,987	1,769,947	816,740	355,597	597,610
3	CITICORP	NY	216,285	1,762,478	1,207,132	264,811	290,535
4	J.P. MORGAN & CO. INCORPORATED	NY	132,532	1,550,680	572,897	579,219	398,563
5	CHASE MANHATTAN CORPORATION	NY	99,085	1,125,075	666,150	258,086	200,839
6	BANKAMERICA CORPORATION	CA	185,466	899,783	581,034	229,926	88,823
7	FIRST CHICAGO CORPORATION	IL	49,936	452,780	276,790	100,666	75,324
8	CONTINENTAL BANK CORPORATION	IL	22,352	170,052	61,058	52,953	56,041
9	REPUBLIC NEW YORK CORPORATION	NY	36,205	164,979	81,707	45,504	37,768
10	BANK OF NEW YORK COMPANY, INC. THE	NY	41,045	91,434	65,128	12,200	14,106
11	BANK OF BOSTON CORPORATION	MA	32,766	69,479	49,254	9,092	11,133
12	FIRST UNION CORPORATION	NC	71,959	63,794	17,867	11,672	34,255
13	NATIONSBANK CORPORATION	NC	124,385	47,490	12,832	30,574	4,084
14	MELLON BANK CORPORATION	PA	36,209	37,122	22,834	11,552	2,736
15	BANC ONE CORPORATION	OH	75,413	32,289	2,610	29,349	330
* 16	BANKMONT FINANCIAL CORP.	NY	16,990	32,107	21,293	2,425	8,388
* 17	NATWEST HOLDINGS INC.	NY	23,681	29,755	7,717	10,225	11,813
18	STATE STREET BOSTON CORPORATION	MA	18,170	23,785	23,082	600	103
19	PNC BANK CORP.	PA	53,317	20,965	786	8,401	11,778
* 20	MARINE MIDLAND BANKS, INC.	NY	16,736	15,773	7,055	8,718	0
21	WELLS FARGO & COMPANY	CA	51,329	15,353	5,354	2,953	7,045
22	SHAWMUT NATIONAL CORPORATION	CT	25,892	14,929	8,408	814	5,707
23	SIGNET BANKING CORPORATION	VA	12,052	14,011	3,032	2,633	8,346
24	FIRST INTERSTATE BANCORP	CA	49,488	12,964	1,304	8,166	3,494
25	FLEET FINANCIAL GROUP INC	RI	44,871	12,599	6,733	4,861	1,006
	TOP 25 HOLDING COMPANIES			10,547,006	5,764,297	2,595,254	2,187,455
	OTHER 190 HOLDING COMPANIES			174,959	57,300	85,243	32,416
	TOTAL NOTIONAL AMOUNT FOR ALL HOLDING COMPANIES			10,721,965	5,821,597	2,680,497	2,219,871

* Companies with over 50% foreign ownership.
Note: Table includes data for companies with total assets of $150 million or more, or with more than one subsidiary bank.
Source: Consolidated Financial Statements for Bank Holding Companies (FR Y-9 C) Schedule HC-F

TABLE 4

State & Federal U.S. Branches and Agencies of Foreign Banks
(June 30, 1993 data, Notional Amounts, $ in millions)

RANK	BANK NAME	ASSETS	TOTAL DERIVATIVES	TOTAL FUTURES & FORWARDS	TOTAL SWAPS	TOTAL OPTIONS
1	INDUSTRIAL BANK OF JAPAN, LTD.	$23,177.5	$196,181.9	$92,747.9	$73,108.5	$30,325.5
2	MITSUBISHI BANK, LTD.	33,021.7	164,622.4	118,515.2	44,192.3	1,914.9
3	HSBC HOLDINGS PLC	6,812.5	155,039.6	76,906.7	72,427.0	5,705.9
4	CREDIT LYONNAIS	23,202.9	148,092.3	9,780.1	83,376.8	54,935.4
5	FUJI BANK LIMITED	27,683.4	138,953.9	10,726.0	121,148.2	7,079.7
6	TOKAI BANK, LIMITED	8,583.3	137,565.6	23,024.3	113,128.3	1,413.0
7	SANWA BANK, LIMITED	26,695.0	123,434.9	4,256.1	83,597.2	35,581.6
8	WESTPAC BANKING CORP.	3,820.0	89,490.4	25,915.1	47,574.9	16,000.4
9	YASUDA TRUST AND BANKING CO.	10,074.0	87,326.6	60,866.1	24,800.5	1,660.0
10	SWISS BANK CORP.	17,468.4	84,359.9	34,296.9	9,263.8	40,799.2
11	COMPAGNIE SUEZ	7,519.5	65,342.6	12,229.5	40,786.4	12,326.6
12	DEUTSCHE BANK AKTIENGESELLSCHAFT	4,965.0	64,394.8	8,220.0	55,754.0	420.8
13	SOCIETE GENERALE	22,379.2	61,815.4	18,075.0	42,282.3	1,458.1
14	SUMITOMO TRUST & BANKING CO., LTD.	8,548.1	57,977.2	45,553.0	11,832.0	591.5
15	BANK OF TOKYO, LTD.	20,086.2	53,822.8	2,971.4	36,377.2	14,474.3
16	SUMITOMO BANK, LTD.	20,365.2	49,730.3	4,355.5	40,905.5	4,469.3
17	CANADIAN IMPERIAL BANK OF COMMERCE	9,891.7	45,341.8	36,667.4	8,544.4	130.0
18	ROYAL BANK OF CANADA	5,058.7	42,019.7	20,928.4	14,011.3	7,079.0
19	TORONTO-DOMINION BANK	4,695.9	35,014.6	8,249.0	22,084.5	4,680.2
20	MITSUI TRUST AND BANKING CO., LTD.	7,718.9	34,927.4	5,327.0	27,900.4	1,700.0
21	UNION BANK OF SWITZERLAND	14,783.6	34,188.7	24,973.4	6,673.7	2,541.6
22	NIPPON CREDIT BANK, LTD.	7,199.6	32,766.5	15,270.5	13,583.3	3,912.6
23	SAKURA BANK LTD.	14,860.9	32,694.4	5,319.0	17,320.3	10,055.1
24	A.B.N. - STICHTING	13,867.9	31,596.6	16,263.8	13,109.9	2,222.9
25	MITSUBISHI TRUST AND BANKING CORP.	11,787.3	29,114.4	4,252.8	23,136.9	1,724.7
	Subtotal for Top 25	$354,266.4	$1,995,814.7	$685,690.1	$1,046,919.6	$263,202.3
	Subtotal for All Derivatives Users (N = 164)	$665,148.6	$2,316,403.5	$796,301.3	$1,226,645.2	$293,455.9
	Grand Total (N = 272)	$689,589.4	$2,316,403.5	$796,301.3	$1,226,645.2	$293,455.9

Note: U.S. branches and agencies consolidated by parent company.
Source: Report of Assets and Liabilities of U.S. Branches and Agencies of Foreign Banks (FFIEC 002)

D3. How important are foreign banks to the derivative products market in the U.S.?

Data that would enable us to determine the relative importance of foreign banks to the U.S. market are not available. Major foreign banks play a sizable role in derivatives product markets on a world-wide basis, however. Table 4 provides data on notional amounts of derivatives product holdings for many of the state and federal U.S. branches and agencies of foreign banks that are most active in derivatives markets.

D4. Is there adequate coordination with foreign bank regulators in the derivative area?

We believe that existing coordination among U.S. and foreign bank regulators on the full range of regulatory issues, including issues associated with bank derivatives activity, is adequate for regulating the risks associated with derivatives products. Coordination and communication among U.S. and foreign bank regulators has increased in recent years, partly in response to the expansion of, and innovation in, derivatives markets.

Such coordination occurs through formal organizations, including the Bank for International Settlements and the Basle Committee on Banking Supervision[7], as well as through informal channels, including bilateral and multilateral meetings and dialogues among regulators, and training programs and technical assistance activities that the U.S. regulators provide to foreign bank supervisors.

The OCC occasionally shares supervisory information with foreign supervisors, in the context of the authority (and related controls and restrictions) given in Section 206 of the Federal Deposit Insurance Corporation Improvement Act of 1991 (FDICIA).

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[7] The Basle Committee is evaluating the credit exposures arising from bank derivatives positions in conjunction with the calculation of a bank's risk-based capital. As described in the October response, the OCC is also participating in the efforts of the Basle Committee to develop revised capital requirements for the market risk in banks' trading portfolios and foreign exchange activities. The Basle Committee released consultative papers on those efforts in April, 1993.

E1. For the top ten bank derivatives dealers for the past five years, please provide trading assets and trading income.

E2. For those same banks over the same time period, what percentage of each bank's assets are trading assets and what percentage of income is derived from trading profits?

Table 5 reports trading asset information for each of the ten U.S.-chartered commercial banks that is a dealer in derivatives products. Please note, however, that trading assets are unreliable indicators of derivatives product activity--they include many assets that are not derivatives products, and some derivatives product-related entries are reported in other balance sheet accounts.

Table 6 reports trading revenue information for each of those ten banks. We have defined trading revenue as the sum of interest income from assets held in trading accounts, gains (losses) and fees from assets held in trading accounts, and trading gains (losses) and fees from foreign exchange transactions.

The table reports the percentage of gross revenue that each bank earns from its trading activities, which include its derivatives activities. Data on trading profits are not available because banks do not report expenses by product line. Also, derivatives product activity is reflected in several income statement accounts, including interest income, interest expense, trading gains (losses) and fees from foreign exchange transactions, all other noninterest income, and other noninterest expense. Those accounts do not report derivatives activity separately or exclusively.

The data we report in Tables 5 and 6 have not been restated to reflect mergers or acquisitions.

TABLE 5
TRADING ASSETS OF THE TEN U.S. COMMERCIAL BANKS
THAT DEAL IN DERIVATIVES
($ MILLIONS)

DOLLAR VOLUME

Bank Name	1988	1989	1990	1991	1992	1993Q2
Chemical Bank	$2,936	$595	$1,614	$1,516	$2,797	$6,142
Bankers Trust	7,173	13,814	14,901	21,196	23,365	26,758
Citibank	5,846	5,957	5,511	10,359	14,842	15,303
Morgan Guaranty	2,893	3,193	5,230	10,487	18,097	26,311
Chase Manhattan	2,527	2,744	1,638	2,260	4,097	3,858
Bank of America	1,392	1,037	1,438	3,178	3,238	5,000
First NB Chicago	560	573	984	1,192	1,807	2,374
Continental	1,659	1,447	1,405	1,552	994	1,457
Republic	192	324	113	269	638	698
Bank of New York	48	316	109	914	347	870

PERCENT OF TOTAL ASSETS

Bank Name	1988	1989	1990	1991	1992	1993Q2
Chemical Bank	5.8	1.3	3.4	3.1	2.6	5.6
Bankers Trust	13.0	27.0	27.8	40.2	41.9	41.9
Citibank	3.9	3.7	3.5	6.4	9.1	9.1
Morgan Guaranty	4.1	4.9	7.6	13.3	23.6	25.4
Chase Manhattan	3.3	3.3	2.1	3.0	5.5	4.8
Bank of America	1.7	1.2	1.5	3.2	2.4	3.7
First NB Chicago	1.6	1.6	2.7	3.7	5.7	7.0
Continental	5.4	4.9	5.3	6.5	4.5	6.6
Republic	1.0	1.5	0.5	1.1	2.1	2.5
Bank of New York	0.2	0.7	0.3	2.5	1.0	2.4

Source: Call Reports. The data have not been restated to reflect mergers or acquisitions.

TABLE 6
TRADING REVENUE OF THE TEN U.S. COMMERCIAL BANKS
THAT DEAL IN DERIVATIVES
($ MILLIONS)

DOLLAR VOLUME

Bank Name	1988	1989	1990	1991	1992	1993Q2
Chemical Bank	$550	$524	$667	$533	$894	$692
Bankers Trust	1,030	1,549	2,268	1,958	1,790	1,091
Citibank	3,133	1,820	1,993	2,101	2,968	2,025
Morgan Guaranty	562	673	1,167	1,800	2,266	1,327
Chase Manhattan	478	534	466	428	663	393
Bank of America	291	323	431	590	686	414
First NB Chicago	272	273	335	257	302	385
Continental	129	207	216	111	85	61
Republic	72	78	101	110	137	94
Bank of New York	18	103	87	119	138	60

PERCENT OF GROSS REVENUE

Bank Name	1988	1989	1990	1991	1992	1993Q2
Chemical Bank	9.5	9.7	13.0	11.3	9.1	14.3
Bankers Trust	18.3	23.3	34.1	36.1	36.1	38.3
Citibank	13.5	6.7	7.3	9.5	12.6	16.5
Morgan Guaranty	8.6	8.9	15.1	23.6	29.6	33.7
Chase Manhattan	5.0	5.0	4.6	5.3	8.4	9.3
Bank of America	3.2	3.2	3.9	5.5	5.7	6.9
First NB Chicago	7.9	7.1	9.1	9.2	13.4	28.7
Continental	4.2	6.3	7.1	4.7	5.0	7.2
Republic	4.2	3.6	4.9	6.0	8.2	11.5
Bank of New York	0.9	2.1	1.8	3.4	4.7	4.2

Source: Call Reports. The data have not been restated to reflect mergers or acquisitions.

E3. To what extent are there legal and physical barriers erected between bank proprietary trading activities and a bank's customer-related derivatives activities?

Many national banks that engage in OTC derivatives transactions as dealers with their customers also engage in a relatively small volume of proprietary trading.[8] The OCC does not require national banks to erect any physical barrier between the two functions, or between customer transactions and any other trading activity of the bank in foreign exchange, precious metals, or government securities.

The OCC believes that national banks can safely carry out both functions in the same department, provided that the bank has appropriate systems and controls in place. Banking Circular 277 emphasizes that dealer banks should have or implement proper systems and controls to manage both functions in a safe and sound manner. For example, that Banking Circular states that the bank officers responsible for establishing and approving financial derivatives credit lines should understand the applicability of financial instruments to the risks the bank customer is attempting to manage.

The OCC will continue to review banks' systems and controls during on-site examinations, and our examiners will take appropriate action if the structure or management of a bank's derivatives department raises any specific concerns or conflicts.

A few banks have established or acquired operating subsidiaries that are SEC-registered broker-dealers or CFTC-registered futures commission merchants, to engage primarily in exchange-related derivatives activities. Such operating subsidiaries are subject to SEC and CFTC rules designed to protect against conflicts of interest between transactions executed on behalf of the subsidiaries and their affiliated parties (included affiliated bank) on the one hand, and transactions executed on behalf of their customers on the other hand.

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[8] As stated in the October 26 response, for the six national banks that are dealers in derivatives products, approximately 90 percent of their derivatives activities are customer-related. Approximately 10 percent are transactions that are entered into for the bank's own risk management, which includes both position-taking (*i.e.*, proprietary trading) and risk reduction activities.

E4. In trading for their own proprietary accounts, to what extent do dealer banks use information gleaned from customer-related derivatives activities?

Bank dealers use information they gain from observing customer transaction flows to develop views on major market movements. Such information is important to dealers and may allow them to operate more effectively.

However, a bank's derivatives customers may not be any more prescient than the bank regarding future market movements, so any information gleaned from customer transactions may be of limited use to the bank. Furthermore, each customer's circumstances are unique and may not be driven by the customer's opinion about general market movements. Thus, a customer purchase of a particular product or set of products would not necessarily indicate the customer's opinion about market movements. In this case, following the customer's lead would not necessarily serve the bank's proprietary trading objectives.

F1. Please comment on the feasibility and implications of levying a tax on speculation-related derivative transactions.

Derivatives activities, like many other banking activities, have the potential for imposing costs on the banking system that are not borne by the bank undertaking the activity. This can happen in either of two ways. Flat-rate deposit insurance can shift some of the risk inherent in the activity to the federal deposit insurer. Or, the activity may give rise to systemic risk: losses to the bank undertaking the activity may trigger additional losses at other banks. The purpose of levying a tax on derivative transactions--or any other risky activity--would be to ensure that banks take these costs into account when making portfolio decisions.

There is no need, however, to establish a separate mechanism for taxing derivatives or other risky activities. The current risk-based system of capital regulation is designed to make banks bear the cost of their own risk-taking. As the October 26 response states, the OCC's current capital standards address risks arising from derivatives activities through a combination of explicit regulatory minimum capital standards and evaluations of a bank's capital adequacy through the examination process. Furthermore, under the current system of risk-based deposit insurance, an institution that undertakes a riskier activity will either have to increase its capital, or face an increase in its insurance premiums.

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U.S. HOUSE OF REPRESENTATIVES

COMMITTEE ON BANKING, FINANCE AND URBAN AFFAIRS

ONE HUNDRED THIRD CONGRESS

2129 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-6050

October 6, 1993

Ms. Sheila Bair
Acting Chairman
Commodity Futures Trading Commission
2033 K Street, N.W.
Washington, D.C. 20581

Dear Ms. Bair:

On October 28, 1993 at 10:00 a.m. the Committee on Banking, Finance and Urban Affairs will hold a hearing on the safety and soundness issues associated with bank derivatives activities. You are invited to testify at this hearing.

The Committee is interested in hearing from the CFTC the differences in exchange versus over-the-counter (OTC) derivative products, as well as the interagency coordination that exists between regulators of derivative products.

So that the Committee can better understand the differences between these markets and the regulatory interaction, please direct your written testimony to include discussion of the following areas:

1. Please summarize your agency's strategy for supervising derivative market activities.

2a. To what extent does the CFTC regulate bank derivative activities?

2b. Would that authority change if bank derivative activities were transferred to a separately capitalized subsidiary?

3. Please summarize the CFTC's upcoming report on derivatives, including findings and recommendations.

4. What competency training, testing or requirements are there for professionals that regulate or deal derivative products?

5. Discuss the coordination and cooperation that exists between the CFTC and other regulators of financial derivative products.

6. Please share with the Committee any comments you have on the Group of 30's report on derivative practices and principles, including both recommendations for regulators and dealers.

7. What comments does the CFTC have on the growth of over-the-counter derivatives activities? Are you concerned about the adequacy of the regulation in the OTC market for derivative products?

Please feel free to address any other issues that will shed light on the CFTC's efforts to monitor derivative products.

You will be given five minutes to summarize your written remarks. Banking Committee rules require that two hundred copies of your written testimony be delivered to Room 2129, Rayburn House Office Building, no later than the close of business October 26, 1993.

Thank you for your cooperation. The Committee looks forward to your testimony.

Sincerely,

Henry B. Gonzalez
Chairman

HBG:mpc

Statement of Sheila C. Bair
Acting Chairman
Commodity Futures Trading Commission

Before the House of Representatives
Committee On Banking, Finance and Urban Affairs
October 28, 1993

Mr. Chairman, members of the Committee. Thank you for the opportunity to appear before you today to discuss bank derivative activities. The subject of over-the-counter (OTC) derivative markets has engendered a great deal of discussion and led to several recent studies. This discussion is fueled by reports that the OTC derivative market has grown rapidly to a size of over $5 trillion in notional principal. The Commodity Futures Trading Commission believes this dramatic growth presents a number of important policy issues. The Commission is pleased to have this opportunity to present its views on this topic.

As you know, the CFTC regulates the futures and options on futures markets in the United States. These markets have been, and continue to be, one of America's most innovative and competitive industries. The United States has the oldest and largest futures markets in the world; our markets have always been the world leader in financial innovation. United States futures markets permit commercial institutions, firms, institutional investors, and fund managers to manage risk associated with changing cash market prices. In 1960, 3.9 million futures contracts were traded. Last year, over 364.5 million contracts traded. Today, United States futures markets serve as models for other countries developing futures and option products, just as the regulatory system at the

CFTC serves as the model for other countries developing futures market regulatory systems.

Commission regulated markets are, of course, only one part of the overall derivatives market place. OTC derivatives currently trade for the most part outside the CFTC's regulatory structure. Concerns about the adequacy of regulatory controls over OTC derivatives prompted Congress to direct the Commission to conduct a study of OTC derivatives markets to determine the need, if any, for additional regulation of these markets. Pursuant to this directive, the Commission prepared a report entitled OTC Derivative Markets and Their Regulation which was transmitted to Congress on October 25, 1993. The findings of this report are discussed below. In addition, we provide answers to each of the questions posed in Chairman Gonzalez' letter of October 6, 1993.

Question 1. Please summarize your agency's strategy for supervising derivative market activities.

The Commodity Exchange Act (the "CEA" or "Act") vests the Commodity Futures Trading Commission ("CFTC" or "Commission") with exclusive jurisdiction over futures and commodity option transactions.[1] The CFTC regulatory framework for such transactions is essentially directed toward oversight of exchange trading of futures and options contracts and of intermediaries engaging in

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1/Section 2(a)(1)(A)(i) of the CEA grants the CFTC exclusive jurisdiction with respect to "accounts, agreements (including any transaction which is of the character of . . . an "option" . . .), and transactions involving contracts of sale of a commodity for future delivery, traded or executed on a contract market . . . or any other board of trade, exchange or market . . ."

such transactions on behalf of customers. Subject to certain narrowly defined exceptions and to the CFTC's recently enacted authority to exempt certain transactions or categories of transactions from most provisions of the CEA, all transactions in commodity futures contracts and all commodity option transactions are required to occur on or subject to the rules of contract markets (exchanges) designated by the CFTC. These markets provide safeguards to participants in futures and commodity option transactions such as open and competitive trading, continuous markets, public price dissemination, and protection against counterparty risk. Such safeguards are not generally available other than on exchange markets. For example, the financial integrity of futures transactions and commodity option transactions on designated futures exchanges is supported by the system of daily payment and collection of margin on a mark-to-market basis, by minimum capital, segregation and reporting requirements applicable to futures commission merchants ("FCMs"), and ultimately by the obligation of the clearing organization affiliated with each exchange to guarantee the integrity of each transaction entered into on that exchange.

Section 2(a)(1)(B) of the CEA and related securities laws allocate jurisdiction with respect to certain derivative products between the CFTC and the SEC. The SEC has authority to regulate the trading of options on securities, on groups and indices of securities, on certificates of deposit and on foreign currencies when entered into on a national securities exchange. The CFTC has

exclusive jurisdiction over futures trading on "exempted securities," on groups or indices of securities and options on such futures, and over foreign currency options not traded on a national securities exchange.[2] Futures on individual securities other than exempted securities are prohibited.

Although the CEA regulatory framework generally contemplates that futures and commodity options transactions will take place on CFTC-regulated exchanges,[3] CFTC rules have long made certain types of commodity options transactions exempt from most CEA regulatory provisions and the CFTC has, in recent years, specified by statutory interpretation several categories of futures or commodity option-related instruments as excluded from or exempt from the general regulatory scheme.

Trade options, for example, are exempt from most CFTC regulatory requirements. Trade options are off-exchange commodity options offered and sold to commercial counterparties which are entering into the transactions for purposes related to their business. Rule 32.4(a) permits the sale of these off-exchange commodity options, other than options on domestic agricultural commodities, in circumstances in which the offeror "has a reasonable basis to believe that the option is offered to a producer, processor or commercial user of, or a merchant handling, the commodity which is the subject of the commodity option

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2/Section 4c(f) of the CEA provides that the CEA is inapplicable "to any transaction in an option on foreign currency traded on a national securities exchange." 7 U.S.C. § 6c(f).

3/ 7 U.S.C. §6(a).

transaction and that such commercial party is offered or enters into the transaction solely for purposes related to its business as such."

The Futures Trading Practices Act of 1992 (FTPA), which was signed into law on October 28, 1992, accorded the Commission authority to exempt from CEA requirements, including exchange trading requirements, specific transactions or categories of transactions between appropriate persons. New Section 4(c)(1) authorizes the Commission, by rule, regulation, or order, to exempt any agreement, contract or transaction, or class thereof, from the exchange-trading requirement of Section 4(a) or any other requirement of the CEA, other than Section 2(a)(1)(B). New Section 4(c)(2) provides that the Commission may not grant an exemption from the exchange-trading requirement of the CEA unless, inter alia, the agreement, contract, or transaction will be entered into solely between certain "appropriate persons,"[4] and the Commission determines that the agreement, contract or transaction in question will not have a material adverse effect on the ability of the Commission or any contract market to discharge its regulatory or self-regulatory duties under the Act. The Commission has thus far

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4/ "Appropriate persons" under new Section 4(c)(3) include banks and trust companies, as well as certain investment companies, commodity pools, employee benefit plans, governmental entities, broker-dealers, FCMs, business entities meeting certain minimum asset or net worth tests, and "[s]uch other persons that the Commission determines to be appropriate in light of their financial or their qualifications, or the applicability of appropriate regulatory protections." 7 U.S.C. § 6(c)(3).

used its statutory exemptive authority in connection with swaps,[5] hybrids[6] and certain energy contracts.[7]

In addition, two petitions by commodity exchanges for relief under Section 4(c) are currently pending before the Commission.[8] One is a petition from the Chicago Mercantile Exchange (CME) concerning the purchase and sale of certain of its now exchange-traded Rolling Spot futures and options contracts. The other is a petition from the Chicago Board of Trade (CBOT) seeking exemption for a "professional trading market" in any instrument of any board of trade. The comment period on these petitions closes on December 15, 1993.

Except in the limited circumstances described above, the CFTC regulates products, the markets on which they are required to trade, and certain market participants, including the intermediaries who carry positions in such markets for or on behalf of customers, certain end-users such as large traders, commingled offerings, known as commodity pools, and those who render trading advice. In general, the purpose of the CFTC's regulation is two-pronged: to protect the market and to protect customers. The CFTC regulatory structure is a comprehensive framework for transactions on exchange markets. The Commission's system contemplates both

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5/ 17 C.F.R. Part 35; See also Statement of Policy, 54 Fed. Reg. 30,694 (July 21, 1989).

6/ 17 C.F.R. Part 34; See also Statutory Interpretation Concerning Certain Hybrid Instruments, 55 Fed. Reg. 13,582 (April 11, 1990).

7/ 58 Fed. Reg. 21,286 (April 20, 1993).

8/ See 58 Fed. Reg. 43,414 (August 16, 1993).

direct surveillance and intervention and oversight of exchanges which are required by statute to enforce their rules and certain Commission rules.

Market Efficiency Regulation

The CEA and Commission rules specify certain core duties that exchanges must perform to become and remain designated as contract markets for transactions in futures contracts, including providing for the prevention of manipulation of prices and cornering of any commodity, market and trade practice surveillance, the making of reports and records of transactions effected on or subject to the rules of the exchange, enforcement of exchange rules, and maintenance of procedures for arbitration of customer grievances. The Commission reviews the rules of organizations seeking to establish markets for futures trading and the terms and conditions of the contract traded thereon. This process is intended to assure fair access to the marketplace and that the design of products does not render them readily manipulable.

Product Design. The CEA contemplates that products to be traded on contract markets will be reviewed by the Commission. In general, the Commission has found that products must be used for a risk shifting or price discovery purpose on more than an occasional basis to meet the statutory requirement that proposed futures transactions not be contrary to the public interest.[9] Although not expressly required by the CEA, all exchange-traded futures contracts are fungible, standardized interests, such that all

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9/ 7 U.S.C. § 7(g).

contracts for the same commodity and delivery month can be readily netted through the clearing mechanism.

Fraud. CEA Section 4b prohibits any exchange member or agent thereof or any other person in connection with any order to make, or the making of, a contract of sale of a commodity for future delivery for or on behalf of any other person from engaging in various types of fraudulent conduct, including, cheating such other person, attempting to deceive such other person regarding the disposition or execution of an order, or "bucketing" of an order.

Fictitious Trading. The CEA proscribes certain activities which may distort price, appearance of depth and liquidity or positions. For example, wash trades, fictitious trades and prearranged trades are precluded. The CEA also prohibits trading which would cause the market to reflect a price that is not "true and bona fide."[10]

Market and Trade Practice Surveillance. Exchanges are required to maintain continuing affirmative action programs to secure compliance with the CEA and exchange rules. Such programs must include surveillance of market activity for indications of possible congestion or other market situations conducive to

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10/This prohibition is found in § 4c(a) of the CEA, 7 U.S.C. § 6c(a). However, nothing in that section "shall be construed to prevent the exchange of futures in connection with cash commodity transactions or of futures for cash commodities or of transfer trades or office trades if made in accordance with board of trade rules applying to such transactions and such rules shall have been approved by the Commission." Thus, off-floor negotiated transactions known as exchanges of futures for physicals may be permissible. Id. Such transactions, which may establish, liquidate or transfer futures positions, must be reported to the exchange for clearing.

possible price distortion and procedures which result in the taking of prompt, effective disciplinary action for any violation. As part of its routine rule enforcement reviews of the exchanges, the CFTC reviews the SRO market surveillance programs. The Commission also conducts direct surveillance of the markets using required position reports from large traders and has either established its own or approved exchange-required speculative position limits or position accountability limits to prevent market distortions and to protect the delivery process. Exchange rule enforcement programs must include, among other things, trade practice surveillance and effective disciplinary action for violations.

Market Disruption Programs (Circuit Breakers/Emergencies). The CFTC consistent with the provisions of Section 8a(9) of the CEA, can take emergency action when it finds that there is a threatened or actual manipulation or corner or "other major market disturbance which prevents the market from accurately reflecting the forces of supply and demand . . . ." Separately, as noted above, exchanges must have market surveillance programs to detect potential disturbances or price distortions and must take remedial action, including emergency actions in appropriate cases. All commodity exchanges trading securities derivative products have adopted coordinated circuit breaker rules which are designed to become effective when stock indices fall by specified amounts. Pursuant to statutory directive in the FTPA, the CFTC has amended Rule 1.41 to establish new procedures to review contract market emergency actions, including a requirement that an exchange make

every effort practicable to notify the Commission of its intention to implement, modify or terminate an emergency rule.

Price/Volume Dissemination (Transparency). Part 16 of the CFTC rules requires contract markets to publish each day information on the trading volume, open contracts, and prices of futures and options. The information is to be made readily available to the news media and the general public. The price change register must report prices at least every 10 seconds.

Financial Safety Regulation.

Clearing. Clearing organizations have been held to be an essential part of a contract market.[11] Thus each exchange must have a clearing organization and that clearing organization is subject to CFTC oversight. Clearing organization rules are submitted to the Commission for review and, in certain circumstances, for approval pursuant to Commission Rule 1.41. Under CFTC rules, exchanges' clearing houses accept contracts for clearance only for the accounts of their members and guarantee the payment of variation margin to clearing members with net gains on positions in their accounts at the clearing house.

The clearing process for futures contracts effects multilateral netting by novation. Following the execution of a futures contract on the exchange, the contract is presented for clearance to the clearing organization by a clearing organization member. In the clearing process, the clearing organization is substituted for

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11/See Board of Trade Clearing Corp. v. United States, [1977-1980 Transfer Binder] Comm. Fut. L. Rep. (CCH) ¶ 20,534 (D.D.C. 1978), aff'd, No. 78-1263 (D.C. Cir. 1979) (unreported).

the original parties to the contract, becoming the buyer to every seller and the seller to every buyer. As the substituted "universal counterparty" to every cleared contract, the clearing organization guarantees performance of each cleared contract. The variation margin representing losses required to be paid to the clearing organization by clearing firms holding losing positions is paid by the clearing organization as variation gains to clearing firms holding opposite positions. The clearing organization guarantee becomes operant if a clearing member firm is unable to satisfy demands for variation margin, representing losses on open positions. In the event of a default by a clearing firm holding a losing position, the clearing organization assures payment to firms holding positions on which profits are owed.[12] The clearing organization guarantee function is secured by original margin deposits required for each cleared contract as well as guarantee funds or other sources.

Margin. As indicated above, clearing organizations collect "original" and "variation" margin from their members. The collection of variation margin is intended to eliminate the credit risk from the market on a daily, or more frequent, basis and to facilitate transactions among anonymous counterparties. Absent an emergency, original margin levels for futures contracts are generally set by exchanges without CFTC review. Recently, however,

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12/See generally Andrea Corcoran and Susan Ervin, Maintenance of Market Strategies in Futures Broker Insolvencies: Futures Position Transfers from Troubled Firms, 44 Washington and Lee L. Rev. 849 (1987).

the FTPA granted oversight authority to the Board of Governors of the Federal Reserve System ("FRB") with respect to levels of margin over stock index futures contracts or options thereon. The FRB has delegated this authority to the CFTC. The CFTC also reviews the methodology for calculation of option margin levels set by the exchanges.

The CME's Standard Portfolio Analysis of Risk ("SPAN") system is used by most, if not all, U.S. futures exchanges. SPAN is a computer program that calculates margin using a portfolio evaluation model that projects the risks of various moves in price and volatility levels on option and futures positions. It develops a combined maintenance margin level based upon the aggregate risk of the combined positions.

Clearing Member Capital. The CFTC has no requirements for clearing members as such. Most clearing houses, however, require their members to maintain a minimum level of capital in order to ensure that clearing members will be able to meet their obligations to the clearing house and to their customers. Most clearing houses also require their members to make substantial deposits to a clearing house guarantee fund to cover any default by a clearing member.

Financial Compliance Programs. Each futures exchange, as a self-regulatory organization ("SRO"), must adopt and enforce minimum financial requirements and reporting rules for its member FCMs that are at least as stringent as those established by Commission regulations. Commission capital rules generally apply

only to firms carrying customer funds. Members transacting solely for their own accounts will ordinarily be subject to exchange and/or clearing organization rules only. As SROs, the futures exchanges and the National Futures Association ("NFA"), an industry-wide SRO responsible for exchange nonmember firms, have the primary direct responsibility to ensure the financial integrity of their member firms. The Commission is responsible for oversight of the SROs' financial surveillance and rule enforcement programs, and for direct auditing of FCMs and IBs that are not members of any SRO. Rule 1.52(c) allows an SRO to delegate audit and financial surveillance responsibility to a DSRO for any member-FCM which is a member of more than one SRO. An FCM's DSRO must monitor and audit compliance with the minimum financial and related reporting requirements for that FCM and receive from the FCM the financial reports specified by the minimum financial and related reporting requirements. FCMs are required to submit quarterly unaudited and annual audited financial reports. Generally an SRO must conduct full scope audits of FCMs for which it is the DSRO once every two years and a limited scope recordkeeping examination during the year in which a full scope examination is not conducted.

Price Limits. In general, each exchange determines the price limits for a particular contract traded at that exchange. Price limits, in volatile markets, create a time-out to permit the collection of variation margin and assessment of financial capacity. In most contracts, the limits do not apply in the "spot" month, during which the contract becomes deliverable.

Market Fairness Regulation

Organized marketplaces generally have rules to assure fairness. In addition to the market efficiency measures discussed above, the Commission regulates exchange governance, order execution and recordkeeping.

Authorization, Qualification and Good Standing (Probity/Competency) Requirements. Commission rule 1.64, adopted June 29, 1993, requires SROs to adopt rules establishing composition requirements for their governing boards and major disciplinary committees. The rulemaking also prohibits persons with certain disciplinary histories from serving on any SRO oversight panel. These requirements take account of the fact that exchanges are membership organizations that maintain public marketplaces and are intended to assure representational diversity on governance boards, foster integrity and impartiality in decision-making, and to prevent preferential treatment in disciplinary proceedings.

Order Execution (Competitive Execution/Dual Trading/Insider Trading). Generally all futures and option contracts which are subject to the rules of an exchange must be executed openly and competitively by open outcry or other methods, such as posting of bids and offers, which are open and competitive. The FTPA directs the CFTC to prohibit "dual trading" by floor brokers in futures or option contract markets with average daily trading volume of 8,000 contracts or more that have not been exempted. On July 22, 1993, the CFTC adopted final rules implementing this statutory directive. On October 19, 1993, the CFTC adopted final rules pursuant to

another statutory directive in the FTPA which prohibit any SRO employee, any member of a SRO governing board, or any member of any committee of an SRO, intentionally or with reckless disregard, from trading commodity interests based on material, nonpublic information obtained through his or her duties at the SRO and from disclosing such information for a purpose inconsistent with the person's official duties. The rules also prohibit any person from trading, intentionally or with reckless disregard, commodity interests for his own account on the basis of material, non-public information that individual knew was obtained from an employee, member of the governing board, or member of any committee of an SRO in violation of the rules' prohibition on disclosing such information.

Audit Trail/Price & Volume Records. The purpose of an audit trail is to prevent abuse of customer orders and improper trade practices by permitting reconstruction of trading and detection of suspicious patterns. An exchange cannot be designated as a contract market until the governing board of the exchange provides for the making and filing of reports showing the details and terms of all transactions entered into on the exchange. The CEA requires that clearing houses and contract markets maintain daily trading records. Rule 1.35 prescribes the scope of recordkeeping for FCMs, IBs, members of exchanges and exchanges for all cash commodity, futures and option transactions.

Customer Dispute Resolution. Each exchange is required by the CEA to provide a procedure, such as arbitration, for the settlement

of customer claims or grievances against exchange members and their employees. The CEA and Rule 170.8 similarly mandate the availability of an arbitration program for customer disputes through the NFA. NFA's program must be consistent with the provisions of Part 180 of the rules, which establish the standards for arbitration programs of the exchanges. A pre-dispute arbitration agreement is generally prohibited by Rule 180.3(b) unless it is in writing and contains specified warnings. The pre-dispute agreement must be specifically endorsed by the customer and may not be a precondition to the customer obtaining the firm's services. The Act also provides for a CFTC reparations procedure in which actions may be brought by customers against a CFTC registrant for violations of the CEA or any rule, regulation or order thereunder[13] and an express private right of action for violations of the CEA.[14]

Regulation of Intermediaries

The Commission regulates futures industry intermediaries, FCMs and IBs, as discussed below. Additionally, the FTPA authorized the Commission to promulgate "risk assessment" rules which will require FCMs to provide reports to the Commission regarding the activities of their affiliates that are reasonably likely to affect the financial or operational conditions of the FCMs themselves. The risk assessment rules will permit better assessment of material risks with respect to the financial

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13/ 7 U.S.C. § 18; see 7 C.F.R. Part 12.

14/ 7 U.S.C. § 22.

condition of FCMs resulting from activities of their affiliates and may help the Commission to avoid or to better manage market disruptions. The Commission has set the development of the risk assessment rules as a priority. Commission staff have been consulting with SEC staff on this project to formulate a coordinated approach that will avoid duplicative reporting. Commission staff will consult other financial regulators as this project progresses.

Financial Safety Regulation

Capital. The CFTC prescribes the minimum financial requirements FCMs and IBs must satisfy to engage in futures business and how those requirements must be calculated. The CFTC generally uses the same capital adjustments as the SEC, including counting only liquid assets in the computation of net capital. In the case of a firm which is qualified as both an FCM and a broker-dealer, the higher of the two agencies' requirements applies. This means that unsecured credit risk is carried at a 100% charge against capital. As a consequence, it is very costly for a regulated FCM to engage OTC derivative transactions and FCMs which do so generally use an unregulated affiliate.[15] Rule 1.52

15/Currently, Commission rule 1.17 requires that certain "haircuts" must be taken in computing net capital for securities options. The Commission is proposing to extend the treatment contemplated by that provision to over-the-counter options on foreign currencies, as well as security indices and options on government debt. 58 Fed. Reg. 43089 (August 13, (1993). Rule 1.17(c)(5)(x) prescribes haircuts for proprietary uncovered futures and options positions. Generally this would be 100% of the applicable margin requirement of the applicable clearing organization if the position is cleared by a clearing organization of which the firm is a member.

requires each SRO to adopt and enforce rules prescribing minimum financial and related reporting requirements for all its FCM members. The NFA is also obligated to adopt such rules for its IB members. The financial and related requirements adopted by the SROs must be equal to, or more stringent than, the CFTC's minimum levels. CFTC rule 1.12 establishes an "early warning system" under which firms are required to notify the CFTC of certain adverse changes in the firm's financial condition in order to permit the CFTC to address a financial situation before it results in market disruption or customer loss.[16]

Margin. The CFTC does not have any regulations restricting collateral or setting levels of margin. However, an FCM cannot represent that it will not call for or collect margin. Also, omnibus accounts must be margined on a gross basis, and firms are required to take a capital charge with respect to customer accounts which remain undermargined for three consecutive days or in deficit for one day. Further, daily marking-to-market of customer futures

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16/The Commission requires an FCM to calculate its minimum adjusted net capital requirement by multiplying the amount it is required to segregate and set aside in special accounts by 4%. The minimum adjusted net capital requirement for FCMs is intended to ensure that an FCM can maintain ongoing operations and financial viability in periods of unusual market stress so that it can continue to meet obligations to customers and the marketplace. Adverse movements in the prices of positions carried by an FCM can cause debits or deficits in customer accounts and if a customer defaults on its obligation to cover the amount owed, the FCM must use its own funds to cover the shortfall since it cannot use one customer's funds to pay for another customer's obligations. The adjusted net capital requirement is intended to provide a cushion for these market and credit risks and to provide time for a firm which has a defaulting customer to transfer other accounts and liquidate the account of the defaulting customer in an orderly manner.

positions is effectively required by Commission rules which require that FCMs compute their segregated funds requirement on a daily basis.

Customer Funds Protection. The CEA and Commission rules require an FCM and clearing organization to separately account for customer funds deposited to margin, guarantee or secure futures positions and the accruals thereon on their books and records, and 100% of such customer funds must be segregated from the carrying firm's own funds.[17] Such funds must be treated as belonging to the customer. In contrast, broker-dealers are required to deposit funds in a bank for the net credit balance owned customers. However, an FCM may pool all customer funds in a single account which must be clearly identified as belonging to customers. An FCM must always have in segregation, free from claims, sufficient funds to meet all its obligations to customers based on the equities in the account, as if such accounts were closed out at the market price at any point in time. Segregation is intended to protect not only the security of customer funds but the market as well. In most markets, segregation should prevent a run on a firm, as all amounts owed to customers must be secured. Also, segregation facilitates the transfer of accounts from a failing firm to a solvent one and thus the maintenance of customer positions and the continuance of payments on such positions. As such, it is part of

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17/ The CFTC follows the SEC's rules on appropriate depositories for the custodianship of customer funds. See CEA Section 4d(2), 7 U.S.C. § 6d(2), and Commission rules 1.20-1.30 regarding customers' money, security and property, 17 C.F.R. §§ 1.20-1.30 (1993).

the framework intended to protect the customer and prevent a "ripple effect." Rule 4.20 requires funds received by a commodity pool operator ("CPO") from pool participants to be received in the pool's name and prohibits CPOs from commingling pool property with that of any other person.[18]

Internal Controls. The CFTC requires FCMs to be audited annually and any material inadequacies in internal controls must be reported. CFTC rule 166.3 requires each registrant, except an AP who has no supervisory duties, to diligently supervise the activities of its partners, officers, employees and agents, or persons occupying a similar status or performing a similar function, related to its business as a Commission registrant.

Default, Insolvency, Bankruptcy. In the case of an FCM bankruptcy, Chapter 7, Subchapter IV of the Bankruptcy Code, Section 20 of the CEA and part 190 of the CFTC regulations provide for pro rata distribution of customer segregated funds among the public customers of the FCM in priority to all other claims except costs of administration. The Bankruptcy Code also provides certain market protections, in the event of an FCM bankruptcy, including preservation of the right of the clearing organization to liquidate positions and to use margin collateral on deposit notwithstanding the Bankruptcy Code's automatic stay provision.

Recordkeeping and Reporting. Rule 1.35(a) contains the general recordkeeping requirements for FCMs and IBs with respect to

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18/Rule 4.10(d) defines "pool" as "any investment trust, syndicate or similar form of enterprise operated for the purpose of trading commodity interests."

futures, commodity options, and cash commodity transactions. Commission rules require FCMs to maintain records of all securities and property received from customers to margin, purchase, guarantee, or secure a futures or exchange option transaction, and of each account carried, the name and address of the customer, and the customer's principal occupation or business. FCMs and IBs generally must prepare and keep current ledgers which show each transaction affecting asset, liability, income, expense and capital accounts in accordance with Form 1-FR (or the FOCUS Report if also registered as a broker-dealer), and make a formal computation of their adjusted net capital and their minimum financial requirements as of the close of business each month. FCMs must keep records concerning details of the investment of customer funds, compute each day the customer funds in segregated accounts and the FCM's residual interest in those funds, and prepare a monthly balance of all open positions which brings to the closing or settlement price all open futures and option positions. Rule 1.33 requires an FCM to prepare monthly and confirmation statements. FCMs must provide customer position information to the Commission.

Market Participant Activity

Authorization, Qualification and Good Standing (Probity/Competency). The CEA generally requires registration of futures professionals who engage in sales and order taking activities with the public and of their supervisors. It also requires fitness clearances for principals of firms which carry customer accounts. Sections 8a(2) and (3) of the CEA provide objective

criteria for making determinations regarding fitness for registration. Persons subject to criminal sanctions or who have violated the securities laws, or who have other specified types of disciplinary histories, may be found unfit to receive a registration. NFA requires completion of a competency exam for professionals who deal with the public. Pursuant to statutory directive under the FTPA, the CFTC adopted rules in April 1993, which implement an ethics training requirement for all individual registrants and which authorize the suspension of registration for certain registrants charged with felonies. In April 1993, the CFTC approved rules requiring the registration of floor traders ("FTs") (i.e., persons trading for their own account on or subject to the rules of a contract market). Under these rules FTs are subject to the same background and fitness checks as other registrants.

Sales Practice (Risk Disclosure/Promotional Material). The CFTC requires written disclosure of the generic risks of futures and options trading. Before an FCM or an IB may open a commodity account for any customer, the customer must be provided with a written risk disclosure statement regarding, among other things, the risks, costs and important procedures of trading. Special disclosures are required to be provided to options customers. In addition, the CFTC has required NFA to adopt a "know your customer" rule which generally requires each NFA member to obtain from each customer his age, occupation, income, net worth and previous investment experience and to provide special risk disclosure where

it appears necessary. As noted above, CEA Section 4b prohibits any person, in connection with any order or contract of sale of any commodity for future delivery for another person, from making false or misleading statements in connection with a transaction. The CFTC may bring an action to enjoin the use of misleading advertising, including deceptive telephone sales practices, or sales representations, or commence an administrative complaint based on the use of such material or statements.

Sales Practice Compliance. The CFTC relies on SROs to provide for direct supervision of industry sales practices. The CFTC's role is that of oversight. In that capacity, the CFTC's staff conducts regular reviews of the SROs' sales practice audit programs to determine whether SRO programs meet CFTC standards. The scope of NFA and exchange audits includes, among other things, advertising material, proper order handling, the handling of discretionary accounts, adequacy of internal supervision, and proper handling and disposition of customer complaints.

Regulation of End-Users. CEA Section 9(a)(2) provides that it shall be a felony for any future contracts, or any person to manipulate or to attempt to manipulate the price of any commodity in interstate commerce or to corner or to attempt to corner any such commodity. In order for an exchange to be designated as a contract market for futures or options, its governing board must provide for the prevention of manipulation of prices and the cornering of any commodity by traders on the exchange. The CFTC and exchanges conduct market surveillance to detect and prevent

price manipulation, and the CEA permits the CFTC to institute enforcement proceedings if it has reason to believe that any person other than an exchange is manipulating or attempting to manipulate or has manipulated or attempted to manipulate the market price of any commodity, in interstate commerce, or for future delivery on or subject to the rules of any exchange.

In order to curb excessive speculation, Section 4a of the CEA authorizes the CFTC to set limits on the amount of futures trading which may be done and the number of futures positions which may be held by any one person or by "two or more persons acting pursuant to an express or implied agreement or understanding." Section 4a(c) of the CEA exempts bona fide hedging transactions and positions from any limits imposed by the CFTC. Rule 1.61 requires each exchange, unless exempted by the Commission, to establish speculative limits for all commodities traded on the exchange not subject to Federal limits. Rule 18.04 requires each trader who holds or controls a reportable position (that is, a position in excess of a specified number of contracts) to file a "Statement of Reporting Trader," which essentially requires all identifying information regarding the transactions. Rule 18.05 requires a trader to maintain books and records with respect to all reportable positions and related cash market positions, and to furnish these records upon request to the CFTC. Finally, Rule 19.00 requires reports from, among others, persons who have reportable futures positions any part of which constitutes a bona fide hedging position, and persons holding reportable positions who have

received a special call from the CFTC. The futures SROs use large trader reports for financial surveillance.

The Commission's rules preclude certain types of end-users from engaging in various OTC transactions. Specifically, the Commission has limited the availability of certain OTC products--such as swaps--to specified categories of participants based upon their institutional status or financial resources.[19] Under the exemptive authority conferred by the FTPA, the Commission's exemptive authority with respect to the exchange-trading requirement extends only to "appropriate persons." The Commission recognizes that OTC products are not appropriate for all categories of market participants, in light of their lack of financial or other qualifications to engage in transactions in OTC markets.

Question 2a. To what extent does the CFTC regulate bank derivative activities?

Banks may participate in the futures markets both as end-users and intermediaries and, in either case, are subject to the same regulatory requirements as other market participants. For example, depository institutions may use futures and options transactions for asset and liability management. The potential utility of the futures and options markets for these purposes was recognized by federal bank regulators in approving the use of interest-rate futures and options for purposes of reducing interest-rate exposure.

19/ 17 C.F.R. Part 35.

When trading in the commodity futures and option markets as end-users, banks are subject to all of the provisions of the Act and CFTC regulations applicable to other traders on designated futures and option exchanges. These include the Commission's large trader reporting system, applicable exchange position accountability rules and prohibitions on manipulating the markets.

Banks may also be involved in the futures markets in the role of intermediary. In such cases, the bank will have established an FCM, or IB unit, generally in the form of a separately incorporated affiliate of the bank or the bank's holding company. Such "bank" FCMs or IBs are subject to all of the registration, financial and all other regulatory provisions, including anti-fraud, customer protection and trade practice rules applicable to other FCMs or IBs.

Some recent data illustrate the extent of bank participation in the futures and options on futures markets. Based on position data for September 7, 1993, the number of banks holding reportable financial futures positions ranged from eight in the relatively small IMM Three-Month Euromark contract to 60 banks in the IMM Three-Month Eurodollar contract, the largest financial futures contract with all futures combined open interest of over two million contracts. The percentage of open interest held by reportable banks ranged from 6.7% of the long open interest in the smaller CBT municipal bond contract, to 64.2% of the short open interest in the smaller IMM One-Month LIBOR contract.

With respect to options on futures, the number of banks holding reportable financial options positions ranged from seven in the small IMM U.K. Pound Sterling and IOM Nikkei 225 options, to 82 in Eurodollar options. The percentage of open interest held ranged from 14.8% of the long puts in Nikkei options to 87% of the short calls in the Nikkei.

Regarding the two largest financial futures contracts, the IMM Eurodollar and CBT U.S. Treasury Bond contracts, there respectively were 60 banks holding 39.7 and 35.1% of the long and short open interest, and 25 banks holding 13.8 and 17.6% of the long and short open interest. Similarly, in the two largest financial futures-options, Eurodollar and Treasury Bond options, there respectively were 82 banks holding 36.1 and 52.8% of the long and short calls and 58.3 and 53.4% of the long and short puts, and 65 banks holding 21.9 and 19.6% of the long and short calls and 22.6 and 28.0% of the long and short puts.

Question 2b. Would that authority change if bank derivative activities were transferred to a separately capitalized subsidiary?

To the extent that futures and options on futures activity is conducted in a separately organized and capitalized subsidiary, the CFTC's requirements applicable to such activity would apply to the affiliate, rather than to the bank. For example, only the separate subsidiary registered as an FCM would be required to comply with Commission regulation 1.17, which establishes the minimum financial requirements for FCMs. Conversely, if swaps were to be undertaken

by an affiliate of an FCM, that is not otherwise required to register with the Commission, the unregistered affiliate would have no CFTC-mandated capital requirements for maintaining these positions.

Question 3. Please summarize the CFTC's upcoming report on derivatives, including findings and recommendations.

and

Question 7. What comments does the CFTC have on the growth of over-the-counter derivatives activities? Are you concerned about the adequacy of the regulation in the OTC market for derivative products?

The Conference Committee considering the CFTC's 1992 reauthorization legislation directed the agency to conduct a study of OTC derivative markets to determine the need, if any, for additional regulation of these markets, to analyze the public policy implications of two recent court decisions, and to consider the appropriateness of a single federal regulator for futures, securities, and OTC derivatives. Pursuant to this directive, the Commission prepared a report entitled OTC Derivatives Markets and Their Regulation which was transmitted to Congress on October 25, 1993. The report was prepared in consultation with the SEC and FRB.

The report's central conclusion is that while no fundamental changes in regulatory structure appear to be needed at this time to address issues presented by the growing use of OTC derivatives, greater coordination among federal financial regulators would help assure that federal oversight remains

adequate. Finding that the "systemic and public policy issues suggested by these products are not confined to any single market or the province of any one regulator," the report recommends the establishment of an inter-agency council to consider common approaches to such issues as market information access, transparency, internal management controls, and the development of clearing facilities for OTC derivatives.

The report provides an overview of the OTC derivative markets, including a quantitative characterization of their size and scope. Among the report's key findings:

- Market Size: The widespread use of notional principal in "sizing" the OTC derivatives market may significantly overstate total risk exposure because, for many common OTC derivatives transactions, notional principal is used only to calculate payments between counterparties and is never exchanged. Thus, while available sources indicate that total notional principal in the interest rate and currency swap markets approached $5 trillion at year-end 1992, the true risk exposure in these markets can be assumed to be only a small fraction of that amount.

- Growth/Nature of Market: OTC derivatives have grown rapidly by any measure. The market for swaps appears

to be almost entirely intermediated by institutions that act as dealers.

- Swap Dealers: As of year-end 1991, the number of U.S. swap dealers with notional principal exceeding $10 billion stood at 20. Of U.S. dealers, commercial bank positions were three to five times larger than those of non-banks or U.S. units of foreign dealers. Information provided by the SEC indicates that aggregate notional principal held by major U.S. broker-dealer affiliates on interest rate and currency swaps and forex forwards roughly equaled the aggregate notional value of these dealers' futures positions.

- End-Users: Based on available information, end-users of interest rate and forex derivative products appear to consist primarily of commercial banks and corporate financial subsidiaries (25%), followed by corporations (20%), regional banks (18%), and non-dealer foreign banks (16%). A few large U.S. end-users tend to account for a sizeable proportion of total industry notional principal.

The report also notes that a threshold issue in considering the size and nature of the markets in OTC derivatives is that comprehensive, standardized data about OTC derivative products

and those who use them are currently unavailable. One reason for this is that OTC derivatives market participants are subject to varying degrees of regulatory oversight and, thus, to different disclosure obligations. However, the available data are adequate to draw some basic conclusions, but include gaps suggesting a need for further study.

The report points out that potential systemic risks, including those associated with individual participants (such as credit risk), and those more generally associated with OTC derivatives trading (such as lack of transparency), have been identified by numerous domestic and international regulators, and other interested parties. The report summarizes these risks, and describes steps that have been taken by regulators and market participants to address them.

At this point, existing regulatory structures appear adequate to address issues raised by the growth in OTC derivatives markets. However, given that many of the issues raised to date are clearly inter-agency in nature, benefits could be reaped from greater communication and coordination among regulators with an interest in these markets. This effort would supplement, rather than supplant, the ongoing efforts of these regulators. Accordingly, the inter-agency council being recommended by the Commission would identify and consider common regulatory issues raised by OTC derivative products. Specifically, the CFTC recommends that such a council's agenda consist of the following issues:

Information Access. Perhaps the most pressing issue is the difficulty of obtaining comprehensive information about OTC derivative markets. An early focus of regulators' efforts should be identification of information gaps and data needs; e.g., what information or statistics are needed; what information is available and where such information is located; how information currently collected under risk assessment, capital or other authorities of the various regulators could be more standardized; whether more explicit lead regulator-type arrangements for the collection, exchange and monitoring of information could improve its usefulness and accessibility; and the extent to which existing authorities are sufficient as to unregulated end-users and unregistered or foreign entities performing intermediary functions.

Pricing, Disclosure and Risk Valuation Issues. Another issue that federal regulators may wish to review is the relative lack of transparency in OTC derivatives markets, specifically, whether opacity adversely affects the management of risk. Additionally, regulators could examine the adequacy of financial disclosure by the various types of participants in these markets.

Internal Controls. Federal regulators may also wish to consider how they best can encourage the extension of basic risk control measures to end-users through guidance to regulated participants.

Clearing Facilities for OTC Derivatives. Proposals for clearing various OTC derivatives raise a number of issues

appropriate for inter-agency discussion due to inter-market linkages between clearing systems, the inter-market interests of major participants, and participation by firms in multiple markets.

Scope of Regulatory Oversight. Though the Commission is not recommending additional regulatory controls over OTC derivatives at this time, the inter-agency council may wish to consider issues raised by the presence of dealers in OTC derivative markets that are not otherwise subject to federal regulatory oversight.

The Commission was also asked to assess the public policy implications of two recent court decision, Bybee v. A-Mark Precious Metals, Inc., 945 F.2d 309 (9th Cir. 1991), and Salomon Forex, Inc. v. Tauber, 795 F. Supp. 768 (E.D. Va. 1992), aff'd, No. 92-1406 (4th Cir. October 18, 1993). The Commission intends to carefully monitor how the A-Mark decision is used by litigants and interpreted by courts, but does not believe that the Commission's or the states' law enforcement efforts will be significantly hampered by the decision. As to the Tauber decision, in view of the prevalence of litigation and the courts' lack of unanimity over the scope of the Treasury Amendment, the Commission will consider recommending to Congress legislation that would affirm the CFTC's view that the Treasury Amendment[20/] does not extend to the sale of futures and options on foreign currency to the general public.

20/ 7 U.S.C. § 2(11).

The report's analysis of the single regulator issue focuses primarily on issues raised by a merger of the CFTC and SEC. In the Commission's view, it is unlikely that the anticipated benefits of combining the functions of the CFTC and the SEC into one agency would outweigh the anticipated costs. Merging the CFTC and the SEC would leave unaddressed the emerging issues concerning OTC derivatives which are the primary focus of the report. The systemic implications of OTC derivatives relate to the responsibility of bank regulators to oversee the activities of financial institutions involved with such products as well. The CFTC believes that the cross-market concerns about these products could best be addressed by establishment of the recommended inter-agency council encompassing the SEC, CFTC, and bank regulators to supplement the agencies' current efforts at cooperation, information sharing, and harmonization of regulatory efforts.

Question 4. What competency training, testing or other requirements are there for professionals that regulate or deal derivative products?

Generally, although the Commission has no specific recruitment requirements regarding training with regard to derivatives, many CFTC staff members have a background in the industry or equivalent experience in derivatives. Moreover, the overwhelming number of our staff who regulate derivative products are highly educated professionals; 26% are lawyers, 10% are economists (73% of which have a master's degree or higher), and

6% are auditors. The Commission's staff also includes a number of certified public accountants (CPAs), and the Commission funds CPA training for interested staff members. Expert members of the CFTC staff have assisted the FBI in the development of criminal cases and have conducted training sessions for representatives of foreign jurisdictions interested in establishing derivatives markets.

Recognizing the importance of its staff, the Commission sponsors an on-site training program to enhance staff knowledge in areas of special interest or to provide new employees with basic instruction. For example, courses have been offered on the economics of regulation, on regulatory writing, and on swaps.[21/] In addition, each Division of the Commission is required to develop a detailed training plan to ensure that the developmental needs of the Commission and staff are being identified and addressed.

As discussed in the answer to Question 1, above, the Act requires commodity professionals to be registered in order to screen their fitness. Futures commission merchants, introducing brokers, commodity pool operators, commodity trading advisors, floor brokers, floor traders and associated persons must all be registered. Most of the Commission's registration functions have

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[21/] New employees are provided with a series of training classes regarding the regulation of derivative products. In particular, the Commission offers an introduction course taught by in-house staff and other courses and training experiences as necessary.

been delegated to National Futures Association (NFA), a self-regulatory organization.

In addition to registration, industry professionals are required to meet proficiency standards. The written proficiency examination is a key component of the registration fitness determination.[22/] Specifically, NFA Registration Rule 401 generally provides that an individual applying for NFA membership must have taken and passed the National Commodity Futures Examination (the "Series 3 examination") within two years of the date the application is received by NFA.[23/]

[22/] The Futures Trading Act of 1982 ("1982 Act") expanded the Commission's authority under Section 4p of the Act, to include all categories of registrant. The 1982 Act also authorized the Commission, in lieu of administering its own written proficiency examination, to provide for such examinations to be given by a contract market or a registered futures association. Section 17(p) of the Act, also added by the 1982 Act, provided that each futures association registered under the Act promptly adopt rules requiring such association to provide for, among other things, proficiency testing for all persons for which such registered futures association has registration responsibilities.

[23/] Recently, the Commission approved a change to NFA's rules that allow General Securities Representatives (those persons registered with NASD and who have successfully completed the NASD Series 7 examination) to satisfy the proficiency testing requirement by taking and completing NFA's newly developed Managed Futures Funds Examination (the "Series 31 examination") in lieu of the Series 3 examination, provided their Commission regulated activities are limited to: 1) the solicitation of participation in commodity pools; 2) solicitation of persons to open discretionary accounts with registered CTAs; and 3) the supervision of persons whose activities are so limited.

Question 5. Discuss the coordination and cooperation that exists between the CFTC and other regulators of financial derivatives products.

Over the past several years, financial regulators have come to understand more completely the linkages between various markets and marketplaces. As a result, the CFTC and other financial regulators have sought to forge close, cooperative relations in order to find solutions for perceived inter-market problems.

There are numerous examples of coordination and cooperation between financial regulators. For many years, the Commission has provided a monthly report to the banking regulators regarding the positions held by banks in the futures and options markets. In addition, the Commission's staff conducts quarterly surveillance meetings which are attended by officials from the FRB, SEC, Treasury Department, and Federal Reserve Bank of New York (via teleconferencing,) to identify and resolve inter-agency concerns relating to the expiration of financial futures contracts.

The CFTC also participates in meetings of groups designed to foster coordination of specific intra-market or inter-market regulatory or self-regulatory activities. These groups include the Inter-market Surveillance Group ("ISG"), the Inter-market Financial Surveillance Group, the Joint Compliance Committee, the Clearing Organization and Clearing Bank Roundtable, the Joint Audit Committee and working groups established by the Market Improvements Committee (on which Commission staff participate as observers). Recent cooperative efforts between the CFTC and the

SEC have resulted in companion orders facilitating cross-margining of index futures and options positions, as well as the on-line system for sharing aggregated settlement data and margin and deficit information on clearing members of all futures exchanges and the OCC.

Because of the global nature of trading in the derivative markets, the Commission also has sought to establish cooperative relations with foreign regulators. The Commission currently is a party to 21 agreements with 12 jurisdictions to cooperate on a range of supervisory and enforcement matters. Certain of these arrangements specifically address the financial supervision of firms involved in cross border transactions and facilitate assessments of risks to U.S. FCMs related to their affiliates in other jurisdictions.

International information sharing has been facilitated by increased participation of foreign exchanges as affiliates of the ISG, whose function is to coordinate surveillance for various market abuses. All of the U.S. stock and option exchanges are members of the ISG. Four U.S. futures exchanges on which stock index products are traded participate as affiliates. Currently, the foreign affiliates are The Alberta Stock Exchange, Amsterdam Stock Exchange, The Montreal Exchange, Toronto Stock Exchange, The Securities Futures Authority, and Vancouver Stock Exchange. The CFTC and SEC both participate as observers.[24/]

[24/] All of the groups noted above and their mission is discussed at greater length in the CFTC's Intermarket Coordination Report: A Report to Congress, required by the Market Reform Act of 1990.

Question 6. Please share with the Committee any comments you have on the Group of 30's report on derivative practices and principles, including both recommendations for regulators and dealers.

The G-30 report contains some 20 recommendations for internal risk management practices for OTC derivative market participants. Clearly, the focus of the G-30 report is to provide practical guidance to dealers and end-users, as opposed to regulatory standards. One issue that has been raised about the G-30 report is its lack of a timetable for, and of a system to monitor, the implementation of its recommendations.[25/]

The Commission's derivative report discusses internal control mechanisms such as those advocated by the Group of 30 and other commentators on OTC derivatives markets. The Commission notes that the extent to which such recommended practices are actually standard practice for OTC derivatives participants is an open question. In the report, the Commission identifies the subject of internal controls as a potential inter-agency coordinating committee issue. In particular, the Commission suggests that federal regulators discuss how they can best

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[25/] David W. Mullins, Jr., Vice Chairman of the Board of Governors of the Federal Reserve System on July 28, 1993, in a speech before the ISDA Summer Conference, observed that:

> As to the role of the Group of Thirty in fostering implementation, one can't help but note the contrast between this report and the Group of Thirty sponsored study of securities clearance and settlement systems. In the latter case, the report set a timetable for implementation of its recommendations and created a secretariat to monitor implementation efforts in more than a dozen countries.

encourage the extension of sound internal controls to end-users of OTC derivative products.

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U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON BANKING, FINANCE AND URBAN AFFAIRS
ONE HUNDRED THIRD CONGRESS
2129 RAYBURN HOUSE OFFICE BUILDING
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(202) 225-4247

October 12, 1993

Mr. Arthur Levitt
Chairman
Securities and Exchange Commission
450 5th Street N.W.
Washington, D.C. 20549

Dear Mr. Levitt:

On October 28, 1993 at 10:00 a.m. the Committee on Banking, Finance and Urban Affairs will hold a hearing on the safety and soundness issues associated with bank derivatives activities. You are invited to testify at this hearing.

The Committee is interested in hearing from the Securities and Exchange Commission on the oversight of derivative activities of bank holding companies as well as the interagency coordination that exists between regulators of derivative products.

So that the Committee can better understand the regulatory environment, please direct your written testimony to include discussion of the following areas:

1. Please summarize your agency's strategy for supervising derivative market activities.

2a. To what extent does the SEC regulate the derivative activities of banks and bank holding companies?

2b. Would that authority change if bank or bank holding company derivative activities were transferred to a separately capitalized subsidiary?

3. To what extent do GAAP financial reporting requirements applicable to the derivatives activities of banks and bank holding companies reflect the risks associated with those activities? Please describe any SEC guidelines which are incremental to the GAAP requirements that mandate bank holding companies to disclose supplementary or non-financial statement data on off balance sheet financial products.

4. Please describe any projects which are under consideration that might affect the financial reporting and disclosure of derivative products activities and risks.

5. Discuss the coordination and cooperation that exists between the SEC and other regulators of financial derivative products.

6. What comments does the SEC have on the growth of over-the-counter derivatives activities? Are you concerned about the adequacy of the regulation in the OTC market for derivative products?

Please feel free to address any other issues that will shed light on your agency's efforts to monitor derivative products.

You will be given five minutes to summarize your written remarks. Banking Committee rules require that two hundred copies of your written testimony be delivered to Room 2129, Rayburn House Office Building, no later than the close of business October 26, 1993.

Thank you for your cooperation. The Committee looks forward to your testimony.

Sincerely,

Henry B. Gonzalez
Chairman

HBG:mpc

TESTIMONY OF

J. CARTER BEESE, JR., COMMISSIONER
U.S. SECURITIES AND EXCHANGE COMMISSION

CONCERNING THE REGULATION OF DERIVATIVES ACTIVITIES

BEFORE THE
COMMITTEE ON BANKING, FINANCE AND URBAN AFFAIRS

UNITED STATES HOUSE OF REPRESENTATIVES

OCTOBER 28, 1993

U. S. Securities and Exchange Commission
450 Fifth Street, N.W.
Washington, D.C. 20549

TESTIMONY OF

J. CARTER BEESE, JR., COMMISSIONER
U.S. SECURITIES AND EXCHANGE COMMISSION

CONCERNING THE REGULATION OF
DERIVATIVES ACTIVITIES

BEFORE THE COMMITTEE ON BANKING, FINANCE AND URBAN AFFAIRS
UNITED STATES HOUSE OF REPRESENTATIVES

OCTOBER 28, 1993

Chairman Gonzalez and Members of the Committee:

I am pleased to appear today to testify on behalf of the Securities and Exchange Commission regarding the regulation of derivatives activities. During recent years, we have witnessed a virtual explosion in the types of financial products being brought to market in this country, including growing activity involving over-the-counter ("OTC") derivatives. The growth of this market has presented a significant new challenge for regulators -- one which the Commission has met head on, and continues to meet by combining vigorous oversight of our financial markets with the flexibility that allows new products to develop in response to investor needs.

The rapid growth of the OTC market in derivative products has raised concerns in many quarters regarding the adequacy of regulation of these financial devices, and the possible effects of this burgeoning market on the stability of the world's financial markets. While these concerns are understandable, it is important to recognize that the risks posed by new and innovative securities derivative products can be addressed by the existing securities regulatory system. Indeed, a hallmark of the securities regulatory structure is its ability to encourage competition and innovation and at the same time protect investors.

Commission Strategies for Supervising Derivatives Market Activities

"Derivatives," as the term is commonly used, encompass a wide array of financial products, including swaps, futures, options, and forwards, that derive their value from other assets, such as equities, debt, foreign currency, and commodities. Some derivative products, such as options on securities, can be standardized products traded on options exchanges; others, such as currency and interest rate swaps, often are customized to suit the needs of individual investors, and purchased and sold in the OTC market.

As a practical matter, the derivative products assuming a larger role in today's OTC market are similar to, if not the same as, exchange-traded futures and options, except that they add a key element of credit risk not present in standardized exchange-traded products. While the Commission shares concerns about the risks associated with the explosion in trading of OTC derivatives,[1] these concerns are tempered somewhat by the Commission's extensive experience in regulating new and innovative financial products.

The Commission is the nation's first and oldest federal regulator of derivative products. In 1934, Congress considered banning all options trading in order to eliminate the abuses perpetrated by a variety of investment pools and syndicates. After identifying options trading as a legitimate tool for hedging and as a factor in promoting price protection and market stability, Congress instead gave the Commission the authority to approve options trading through rulemaking under Section 9 of the Securities Exchange Act of 1934.[2] Since 1934, the Commission has regulated trading in stock options and other securities-based derivative products. These include both standardized options, such as those traded on five

national exchanges, and derivatives offered by corporate issuers, such as warrants, rights, and various convertible securities.

By 1982, the proliferation of exchange-traded derivative products had resulted in confusion over the respective jurisdictional boundaries of the Commission and the Commodity Futures Trading Commission ("CFTC"). An agreement reached between the Commission and the CFTC was codified by the Congress in 1982.[3] Under the legislation, the CFTC retained exclusive jurisdiction over all futures contracts, including futures contracts on stock indexes,[4] and options on futures contracts and physical commodities and foreign currency (except if traded on a securities exchange).[5] The Commission retained jurisdiction over securities, including options on securities (including exempted securities), options on certificates of deposit, options on stock indexes, and options on foreign currency traded on a national securities exchange.

Commission regulation is comprised of four building blocks that serve as the foundation for investor protection while still maintaining an open and efficient market structure.

- Rules Against Fraud and Manipulation. The cornerstone of Commission regulation is the maintenance of markets that are free of manipulation and abuse. In this regard, the Commission has specific statutory authority under the antifraud provisions of the federal securities laws to adopt and enforce rules that prohibit market manipulation, insider trading, and abusive securities trading or sales practices.

- Broker-dealer Regulation. In the United States, broker-dealers that conduct any derivatives activity involving securities are required to be registered as

broker-dealers with the Commission and to be members of one or more self-regulatory organizations ("SROs"), such as the National Association of Securities Dealers, Inc. ("NASD"), the New York Stock Exchange, and the other national exchanges on which derivative securities are traded. The SROs promulgate and enforce rules governing broker-dealer sales practices. Under these rules, broker-dealers have a duty to provide their customers with best execution of their orders, and to make suitability determinations before recommending customer trades.

In addition, all broker-dealers are subject to Commission rules governing financial responsibility that are designed to protect their integrity and financial stability. These rules include the Commission's recordkeeping and reporting rules and the net capital rule. The net capital rule, in particular, plays a significant role in the maintenance of fair and orderly markets in the United States by ensuring that broker-dealers maintain sufficient net, liquid assets that enable them to satisfy promptly their obligations to customers and other broker-dealers. These assets also provide a cushion against potential market and credit risks.

The net capital rule's existing structure was developed in large measure prior to the recent growth and development of the OTC derivatives market. Under the rule, OTC derivatives are treated as unsecured receivables subject to a 100% capital charge in computing net capital. The capital requirements necessary for effecting OTC derivatives transactions through registered broker-dealers have been one factor influencing dealer decisions to conduct derivatives activities not involving securities in unregistered entities either here or abroad, or in separately-capitalized derivative product companies ("DPCs"). [6] In response to these developments, on May 4, 1993, the Commission issued a concept release requesting comments on the treatment

of derivative products under the net capital rule (the "Concept Release").[7] Among the approaches considered by the Commission in the Concept Release is the development of capital requirements that comprehensively address the credit and market risks posed by derivative products so that firms may conduct derivatives activities in registered broker-dealers subject to appropriate capital standards.

- Regulation of the Markets. A special regulatory regime has developed for securities that are traded on a national securities exchange. These rules are designed to maintain fair and orderly markets, while facilitating market competition and efficiency. Exchange trading, for instance, provides certain safeguards, including transparency (in the form of real time quotation and price reporting), margin requirements and position limits, limitations on market concentration, audit trail requirements, and circuit breakers designed to control extreme market shifts. Some OTC markets, such as the NASD's automated quotation system (Nasdaq), provide many of the same protections. These markets also are subject to surveillance systems that enhance the ability of the SROs to examine and enforce Commission and SRO customer protection rules.

Systems also have been established to ensure efficient and accurate clearance and settlement of trades. Options transactions effected on a national exchange are cleared and settled in a continuous net settlement system operated by the Options Clearing Corporation. This system significantly reduces counterparty risk through the presence of a financially stable contractual intermediary that interposes itself as the contra party to both sides of any transaction.

- Special Customer Protection Rules. Broker-dealers effecting transactions in securities that pose unique risks to investors, whether such securities are traded on an exchange or in the OTC market, are subject to additional requirements under the federal securities laws, including sales practice requirements intended to protect investors and provide them with information about investment risk. In options transactions, broker-dealers are required to follow certain SRO rules governing account opening procedures. Among other things, they are required to exercise due diligence in ascertaining customer suitability for options trading, particularly before recommending options trades or trading strategies, and to provide each customer with a standardized risk disclosure document. SRO rules also impose special qualification and testing requirements for broker-dealer sales personnel and their supervisors who effect options transactions.

The OTC Derivatives Market

The last decade has witnessed the proliferation of derivative products beyond the seemingly ordinary array of options, forwards, and futures common only ten years ago. Now, complex instruments combining elements of some or all of these products are rapidly being developed to permit a wide variety of institutional end-users to manage commercial and investment risks. Because of the extraordinary growth in the OTC derivatives market, perhaps no other subject has received such intense regulatory scrutiny over the past year. What began as an institutional market for shifting currency and interest rate risk has exploded into a market of numerous products covering a variety of asset classes.

The great success of the OTC derivatives market primarily results from the products' flexibility. OTC derivatives can be structured to match the portfolio, or the

investment strategy, of a particular purchaser of a derivatives contract. As a result, these products offer institutions the ability to manage risks that might otherwise make certain investments or economic activities impracticable. In addition, OTC derivatives allow institutions to gain exposure to equity, bond, or mortgage markets around the world without having to liquidate certificates of deposit or Treasury securities.

There is no disputing the utility and versatility of the OTC derivative products being brought to market today. The proliferation of OTC derivatives, however, raises certain issues of fundamental importance to regulators:

- Customer Suitability. The Commission is responsive to indications that the customer base of the derivatives market, which began with only the largest, most sophisticated institutions, may be reaching the next tier of institutional investors. Small institutions, for example, increasingly are using derivative products as a risk management tool to counter the effects of market volatility or to reallocate certain risks, particularly currency risks, associated with portfolio assets. Certain derivative products, such as detachable call options on municipal bonds or collateralized mortgage obligations, are available even to retail investors.

Many derivative products, however, may not be suitable for less sophisticated institutional and retail customers. The Commission and the SROs will not hesitate to enforce the antifraud provisions of the federal securities laws and SRO customer protection rules to ensure that broker-dealers refrain from recommending unsuitable products to uninformed investors.

- Market Impact. The Commission is aware of the possibility that the increased use of derivatives could lead to the failure of one or more derivatives dealers during periods of extreme market stress, with this failure creating ripple effects throughout the OTC derivatives market for broker-dealers and other market participants.

In particular, the growth of the OTC derivatives market has raised issues with respect to counterparty credit risk, leverage, undue concentration, and internal control mechanisms.[8] To remain informed about the issues, the Commission relies on information from various sources, including on-site inspections of registered broker-dealers, information reported to the Commission pursuant to the Market Reform Act of 1990 (the "Market Reform Act") [9], discussions with market participants and fellow regulators, and numerous studies and other publications.[10] The Commission also has addressed these issues through a combination of its financial responsibility and reporting rules.

The Commission's current net capital rule addresses leverage assumed by broker-dealers through the application of required net capital charges. Historically, unsecured extensions of credit have not been a significant element of a broker-dealer's business. The net capital rule's design reflects this; thus the rule contains sophisticated assessments of the market risk component of securities and commodities positions, but treats unsecured credit risk issues more severely. The unrealized profit related to certain OTC derivative products, for example, generally is treated as if it were an unsecured receivable under the net capital rule, subject to a 100% capital charge in computing net capital. The capital requirements necessary to conduct OTC derivatives activities in registered broker-dealers is one factor, in addition to

business, economic, and legal considerations, that has encouraged derivatives activities to be conducted in affiliated entities. As stated earlier, the Commission is considering different approaches to the treatment of derivative products under the net capital rule in order to evaluate whether the net capital rule should be modified in light of activities in the derivatives market, generally, and in the OTC market in particular.

One approach under consideration would involve maintaining the current net capital rule. Another approach would be to devise capital requirements that comprehensively address the credit and market risks posed by derivative products, so that firms could conduct their derivatives activities in registered broker-dealers without what they often regard as undue capital constraints. A third approach, which could be combined with either of the first two approaches or implemented separately, would be to formulate separate capital guidelines that specifically would apply to DPCs that are registered broker-dealers.

The Commission staff also collects information from registered broker-dealers to enable the staff to further evaluate the risk management systems of broker-dealers, particularly their systems for monitoring counterparty risk. Specifically, pursuant to the Market Reform Act, the Commission adopted risk assessment recordkeeping and reporting rules [11] that provide the Commission with an overview, on a periodic basis, of any material risks to broker-dealers posed by their affiliates. Under the rules, broker-dealers are required to file information concerning the financial and securities activities of affiliates that are likely to have a material impact on the broker-dealer's financial and operational condition, and to provide the Commission with immediate and more detailed information in response to

Commission concerns regarding a broker-dealer's financial or operational condition. In addition, broker-dealers are required to make and keep records concerning their policies, procedures, and systems for monitoring and controlling financial and operational risks resulting from the activities of their affiliates. The Commission's staff presently is analyzing quarterly filing information obtained from approximately 250 securities firms.

- Market Interaction. The interrelationships that exist among the cash markets and derivatives trading also cannot be ignored. Recent history has demonstrated, for example, how the liquidity of the nation's equity markets may be strained by the sell-off of stocks and futures by derivatives dealers trying to adjust their hedges to accommodate rapidly changing market risks.[12] Experience also has shown that market volatility can be magnified to the extent a few large dealers or investors dominate and are capable of moving a market.[13] The Commission's reconstruction of the trading activity in the 1987 and 1989 market breaks demonstrated the relationship between the markets. [14]

Regulation of Derivatives Activities of Banks and Bank Holding Companies: Interagency Cooperation

The Commission does not have the authority to regulate the derivatives activities of banks acting as dealers. The Commission recognizes, however, that because the derivatives market crosses regulatory and global boundaries, effective regulation of the derivatives market requires coordination and cooperation with other interested regulators at all levels. Accordingly, Chairman Levitt meets regularly with the heads of the CFTC, the Federal Reserve Board ("FRB"), and the Under Secretary of the Treasury for Domestic

Finance, to discuss a broad range of structural and policy issues, including developments in, and various risks posed by, the derivatives market. These meetings provide the participants with a valuable opportunity to draw upon each agency's experience and expertise. Interagency efforts undertaken by the Commission with the Department of Treasury, the FRB, and the CFTC regarding issues and concerns relating to the soundness, stability, and integrity of domestic and international capital markets are described further in the annual reports the Commission and the other agencies file with the Congress pursuant to Section 8(a) of the Market Reform Act of 1990.[15]

While the Commission does not regulate the derivatives activities of banks acting as dealers, as discussed earlier, it does regulate non-bank, broker-dealer affiliates registered with the Commission. In addition, the Commission requires all public companies, including bank holding companies, to make periodic filings to the Commission that disclose, among other things, material developments in the reporting company's business activities.[16]

Financial Reporting

At the present time, Generally Accepted Accounting Principles ("GAAP") do not comprehensively address the manner in which public companies must account for and disclose their derivative activities. [17] Much of the accounting for derivatives is based on accepted practices, however, with the financial effects of derivatives contracts being reflected in financial statements on a settlement period to settlement period basis, rather than on an on-going basis through the life of the contract (except for futures contracts for which there are daily margin requirements based on the value of the contract).

As noted earlier, financial institutions engaged in derivatives activities as either dealers or end-users are exposed to both credit and market risk.[18] Registered broker-dealers and investment companies are required to mark all positions to market and reflect resulting gains or losses in their financial statements. Neither the credit nor the market risk of derivatives positions designated as hedges appear on the face of the financial statements of institutions that are not registered as broker-dealers or investment companies. However, SFAS No. 105 does require footnote disclosure of financial instruments with off-balance-sheet credit risk. It also requires that financial institutions disclose by class of financial instrument the following:

- the amount of accounting loss the institution would incur if any party to the financial instrument failed completely to perform according to the terms of the contract and any collateral or other security proved to be worthless; and
- the institution's policy with respect to requiring collateral or other security to support financial instruments subject to credit risk, including --
  - information about the entity's access to the collateral or security, and
  - the nature and a brief description of the collateral or other security.

In practice, two of the major classes of financial instruments for which aggregate credit risk is disclosed include (1) aggregate interest rate and foreign currency swaps, and (2) aggregate interest rate forwards, futures, and options. Although most institutions provide greater detail of the notional amounts of various types of derivative products, such notional amounts are not indicative of either credit or market risk.

SFAS No. 107 requires disclosure of the fair value of on- and off-balance sheet financial instruments for which it is practicable to estimate that value. Financial institutions acting as end-users are not required to disclose separately the value of derivatives positions taken to hedge other financial instruments. Rather, the fair value of the hedged

item may be measured inclusive of the value of the derivative used as a hedge. As dealers, financial institutions generally take positions as intermediaries with their customers, but then seek to reduce risk by acquiring an offsetting derivatives position. Typically, the aggregate value of these "matched books" is a sub-component of the institution's trading account. While the matched book is designed to eliminate market risk, the institutions continue to be exposed to credit risk. However, the credit risk associated with these derivatives activities is not separately disclosed.

Financial institutions that file with the Commission are required to comply with Regulation S-K, which requires disclosure of statistical and selected financial information in excess of that required of financial statements under GAAP. The most extensive incremental disclosures are found in Industry Guide 3. [19] The industry guide requires institutions to provide an average balance sheet and average yield or average rate paid for each major category of interest bearing asset and liability. To the extent that institutions use derivatives to hedge or manage their asset and liability positions, the average yield and rate paid are net of the effect on income and expense of the derivative position. It should be noted that no separate disclosure of the effects of derivatives positions is required to be provided.

Regulation S-K, Item 303, [20] Management's Discussion and Analysis of Financial Condition and Results of Operations ("MDA"), requires registrants to discuss information about liquidity, capital resources, and results of operations that the registrant believes is necessary to an understanding of financial condition, cash flows, and results of operations. This very broad requirement is intended to elicit disclosure about transactions or other factors that are not required by GAAP, and while not evident from financial statement or other disclosure, are necessary to an understanding of the financial statements both from

a historic perspective, as well as with respect to continuing operations. Specifically, Item 303(a)(3)(ii) requires registrants to "[d]escribe any known trends or uncertainties that have had or that the registrant reasonably expects will have a material favorable or unfavorable impact on net sales or revenues or income from continuing operations." The staff has observed instances in which registrants have used MDA to disclose the existence of derivatives positions that have had, or that will have, a material impact on the results of their operations.

The FASB's project on hedge accounting involving the deferral of gains or losses is a significant project that is expected to affect the financial reporting and disclosure of derivatives. The application of hedge accounting to derivatives is controversial, and its use can result in the deferral of losses on the derivatives contracts,[21] thus delaying recognition of the negative effects of such contracts.[22] The Commission staff is well aware of the financial reporting and disclosure issues raised by derivatives activities. In the staff's review of filings, comments are raised where the staff identifies the need for fuller and clearer disclosure regarding derivatives activity. The staff is reviewing current disclosure practices and market activities with a view toward addressing the need for additional disclosure guidance.

Conclusion

The structure of regulation that has developed under the federal securities laws is well-suited to dealing with the various risks posed by derivative products. The U.S. securities market is founded on the principle of protecting investors while maintaining open and highly competitive markets. Under the federal securities laws, exchange-traded products must compete directly with off-exchange products, and new types of securities can be

created and traded through sophisticated market systems or in direct dealings among market participants.

The Commission is committed to incorporating new investment vehicles into this existing regulatory structure. For example, it recently approved a proposal by the Chicago Board Options Exchange to list and trade large-size, tailored index options -- referred to as Flexible Exchange Options, or FLEX options -- that allow counterparties to designate, with greater flexibility, some of the terms of exchange-traded options that traditionally were not negotiable (such as expiration date and exercise price). [23] This action has served to develop a system by which market participants are better able to customize options transactions, with the added benefit of clearance and settlement by the Options Clearing Corporation.

The Commission believes that the optimal approach to the regulation of OTC derivatives is to maintain stable markets and protect investors, while allowing market participants the freedom to meet customer needs with new and innovative financial products. Regulators must remain flexible and forward-looking, while bearing in mind the public responsibilities that have been entrusted to them.

ENDNOTES

1. See, e.g., Schapiro, Mary L., Remarks before NASAA/SEC Annual 19(c) Conference, April 26, 1993; Schapiro, Mary L., The Growth of the Synthetic Derivative Market: Risks and Benefits, before The National Option & Futures Society, November 13, 1991; Roberts, Richard Y., Secondary Market Disclosure and Swaps, before the National Association of State Treasurers, March 3, 1993; Beese, J. Carter, Jr., Derivatives: Fundamentally Changing Corporate Finance, Asset Management...And the Retail Industry?, before the Securities Industry Association, May 8, 1993; Beese, J. Carter, Jr., OTC Derivatives: Taking Risk Management to New Heights, London, England, April 20, 1993; Beese, J. Carter, Jr., OTC Derivatives: Encouraging Innovation and Managing Risk, before the Federal Reserve Bank of Atlanta Conference on Financial Markets, March 4, 1993; Beese, J. Carter, Jr., The Future of the OTC Derivatives Market: Where Do We Go From Here, before the Risk Magazine/C●ATS Software Symposium, December 1, 1992; Breeden, Richard C., Remarks before the International Swap Dealers Association, March 11, 1993.

2. Hearings on S.Res. 84 (72nd Cong.) and S.Res. 56 and S.Res. 97 (73rd Cong.) before the Senate Committee on Banking and Currency, 73rd Cong., 1st Sess. Part 15 at 7063. These hearings described the legitimate business practice of options trading as follows:

> These contracts [puts and calls] have been developed and sanctioned by business practice over a period of 2 to 3 centuries. Undoubtedly, they had their origin in transactions involving the merchandising of commodities, and in this respect, are closely akin to the futures contract system now in vogue and such an indispensable part of the marketing of all great staple commodities. As a matter of fact, the future contract system was devised entirely for the purpose of insurance against injurious price changes. The put and call system is in the same category, for it insures the investor in securities against violent fluctuations due to unexpected developments.

3. This jurisdictional agreement, commonly referred to as the "Johnson-Shad Accord," was passed into law by the Congress as part of both the Securities Acts Amendments of 1982 and the Futures Trading Act of 1982. See Public Law No. 97-303, 96 Stat. 1409 (1982) and 97-444, 96 Stat. 2294 (1982).

4. In passing the Johnson-Shad Accord into law, Congress added a provision that provided the Commission with a special consultative and concurrent role in the approval process concerning stock index futures contracts. In particular, the Commission must find that the specific stock index futures contract is cash-settled, not readily susceptible to manipulation, and reflects a substantial segment of the underlying cash market. Futures contracts on individual securities, other than exempted securities, were prohibited.

5. Although Sections 2(a)(1) and 4c of the Commodity Exchange Act ("CEA") prohibit the trading of futures contracts, options on futures contracts, and physical commodity options other than on designated commodities exchanges, the Futures Trading Practices Act of 1992 (Pub. L. No. 102-546, 106 Stat. 3590) amended the CEA by giving the CFTC the authority to exempt certain hybrid products, swaps, and other derivative products from the CEA. In 1993, the CFTC adopted rules exempting swap agreements and certain hybrid securities satisfying specified criteria from regulation under the CEA (17 C.F.R. part 35).

6. During the past two years, Merrill Lynch, Goldman Sachs & Co., and Salomon Brothers have established separately-capitalized, AAA-rated DPCs as derivatives dealers. As a general matter, these companies supplement the derivatives activities of their unregistered capital markets affiliates and have been created to service a market sector that will enter into derivatives transactions only with AAA-rated firms. See Peltz, "Wall Street's Triple-A for Effort," Institutional Investor (May 1993); Liebowitz, "Can the Triple-A Subs Live Up to Their Billing?," Investment Dealers' Digest (Nov. 2, 1991) at 16.

7. Securities Exchange Act Release No. 32256 (May 4, 1993), 58 FR 27486.

8. These and other risks are addressed in various studies, including Report of the Global Derivatives Study Group, Derivatives: Practices and Principles, Group of Thirty, July 1993; The Supervisory Recognition of Netting For Capital Adequacy Purposes, Consultative Proposal by the Basle Committee on Banking Supervision, Basle, April 1993; Derivatives: Report of an Internal Working Group, Bank of England, April 1993; Derivative Product Activities of Commercial Banks, Joint Study of Board of Governors of the Federal Reserve System, Federal Deposit Insurance Corporation, and Office of Comptroller of the Currency, January 27, 1993; Recent Developments in International Interbank Relations, Bank for International Settlements, Report prepared by a Working Group established by the Central Banks of the Group of Ten Countries, Basle, October 1992.

9. Pub. L. No. 101-432, 104 Stat. 978.

10. See supra note 8.

11. 17 C.F.R. §§ 240.17h-1T and 240.17h-2T. See Securities Exchange Act Release No. 30929 (July 16, 1992), 57 FR 32159.

12. Specifically, during the October 1989 market decline, the Commission's Division of Market Regulation found that a few large broker-dealers had provided institutional customers with portfolio puts. These were privately negotiated OTC puts tailored to the institution's hedging needs. The broker-dealers who sold the puts hedged dynamically the exposure from writing those puts. Thus, the OTC puts had the effect of transferring down-side market risks from institutions to the broker-dealers. When the market began to drop quickly during the afternoon of October 13, 1989, these broker-dealers engaged in forced selling of futures in order to hedge their proprietary risk, placing stress on an already fragile market. Broker-dealers who could not hedge with futures due to vanishing liquidity in the S&P 500 futures pit, had to sell stocks near the close. See Division of Market Regulation, Trading Analysis of October 13 and 16, 1989 (May 1990). Trading studies also have indicated that dynamic hedging sales of stock index futures and stock baskets by

institutions following "portfolio insurance" strategies may have contributed to the historic 1987 market break. See Division of Market Regulation, October 1987 Market Break (Feb. 1988). See also Division of Market Regulation, Trading Analysis of November 15, 1991 (Oct. 1992).

In response to the 1987 market break, many institutional money managers reduced their reliance on portfolio insurance strategies, choosing to shift the market risk of their equity portfolios by negotiating OTC equity derivatives with broker-dealers and other market professionals. Similar to portfolio insurance, many of these OTC equity derivatives function like index put options, shifting market risk to OTC dealers. Also, the magnitude of these OTC derivatives is not disclosed to the investing public or other market professionals. As a result, both portfolio insurance and OTC equity derivatives pose unspecified, but potentially large, selling pressure that can have a significant "overhang effect" on the markets, particularly during a period of extraordinary volatility.

13. Based on these concerns, the Market Reform Act authorized the Commission to promulgate rules to monitor the trading activity of certain large traders in the market. The rules proposed by the Commission would require large traders to disclose to the Commission, at its request, certain information concerning their trading accounts and any affiliations or associations the large trader may have with other persons. See Securities Exchange Act Release No. 29593 (Aug. 22, 1991), 56 FR 42550 (As proposed, Rule 13h-1 would define "large trader" as every person who, for its own account or an account for which it exercises investment discretion, effects transactions in "publicly traded securities" in an aggregate amount equal to or in excess of the activity level prescribed in the rule. Large traders could include individuals, hedge funds, banks, broker-dealers, insurance companies, investment advisers, mutual funds, pension funds, and trust companies. Proposed Rule 13h-1 would define "publicly traded securities" to mean national market system securities. Accordingly, the proposed rule generally would cover equities, options on individual equities, and options on an index of equity securities, that are listed for trading on a national securities exchange or the NASD's Nasdaq/NMS system.) Registered broker-dealers also would be required to maintain account and transaction records for each large trader and to report transactions to the Commission or a designated SRO upon request. The proposed rules would allow the Commission to collect information useful in evaluating periods of significant market activity, for instance, after periods of extreme stress such as those that occurred in 1987, 1989, and 1991. These rules have not been finalized and remain under consideration by the Commission.

14. See supra note 12.

15. Securities and Exchange Commission, "Report on Intermarket Coordination Pursuant to Section 8(a) of the Market Reform Act of 1990," May 28, 1993.

16. 17 C.F.R. §§ 240.13a-1 and 240.13a-13.

17. Authoritative pronouncements that address specific aspects of derivatives activities are limited and address foreign currency forward contracts, futures contracts, disclosures concerning off balance sheet credit risk, and disclosures concerning fair value of financial instruments. In addition, the Emerging Issues Task Force has from time to time addressed various issues involving specific problems concerning classes of

derivative products. See Statement of Financial Accounting Standard (SFAS) No. 52, Foreign Currency Translation (Issued Dec. 1981); SFAS No. 80, Accounting for Futures Contracts (Issued Aug. 1984); SFAS No. 105, Disclosure of Information about Financial Instruments with Off Balance-Sheet Risk and Financial Instruments with Concentrations of Credit Risk (Issued Mar. 1990); SFAS No. 107, Disclosures about Fair Value of Financial Instruments (Issued Dec. 1991). Neither SFAS No. 80 nor SFAS No. 52 require any disclosure relevant to assessing credit or market risk associated with futures or foreign currency forwards.

18. To the extent GAAP applies to derivatives, it is reflected in the disclosure requirements of SFAS Nos. 105 and 107, which deal with financial instruments. SFAS No. 105 identifies and addresses two types of risk of loss associated with financial instruments: (1) credit risk, which is the risk of loss due to default of the counterparty to a contract; and (2) market risk, which is the risk of loss due to future changes in market prices that will affect the value of the financial instrument. Although SFAS Nos. 105 and 107 may be useful in assessing the aggregate credit risk associated with derivatives activities, neither one is particularly helpful in assessing market risk.

19. See Regulation S-K, Items 801 and 802. 17 C.F.R. §§ 229.801 and 229.802.

20. See 17 C.F.R. § 229.303.

21. In March 1992, the Chief Accountant of the Commission, in a letter to the Emerging Issues Task Force of the FASB, indicated that the staff henceforth would object to the deferral of gains or losses arising from complex foreign currency option contracts for hedges of anticipated but not firmly committed foreign currency transactions.

22. In May, 1986 the FASB added a project on accounting for financial instruments to its agenda. In September, 1991 the FASB issued a Research Report, entitled "Hedge Accounting: An Exploratory Study of the Underlying Issues." Throughout 1992 and 1993 the FASB has been holding meetings and deliberating on this matter, issuing a report in June 1993 entitled, "A Report on Deliberations, Including Tentative Conclusions on Certain Issues, Related to Accounting for Hedging and Other Risk-Adjusting Activities," that provided background information for meetings held in September of this year. The FASB is continuing to pursue this issue. On October 1, 1993 FASB sent a questionnaire to persons who participated in hedging roundtable discussions in September, soliciting responses to 19 questions concerning applications of hedge accounting. While the FASB does not currently have a timetable for issuance of an exposure draft, it has committed great resources and time to its deliberations and the Commission looks forward to its continued progress.

23. Securities Exchange Act Release No. 31920 (Feb. 24, 1993), 58 FR 12280.

PANEL NO. 2

Invitation Letters, Written Statements, and Answers to Invitation Questions

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U.S. HOUSE OF REPRESENTATIVES

COMMITTEE ON BANKING, FINANCE AND URBAN AFFAIRS

ONE HUNDRED THIRD CONGRESS

2129 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-6050

October 12, 1993

Mr. Martin Mayer
Guest Scholar
Brookings Institute
2852 Arizona Avenue, N.W.
Washington, D.C. 20016

Dear Mr. Mayer:

On October 28, 1993 at 10:00 a.m., in Room 2128, Rayburn House Office Building, the Committee on Banking, Finance and Urban Affairs will hold a hearing to examine the safety and soundness issues associated with bank derivatives activities. You are invited to testify at the hearing.

So that the Committee may better understand the various safety and soundness issues involving bank derivatives activities, please answer the following questions.

1. Since most bank derivative products are customized instruments that are not traded on regulated exchanges it is up to an individual bank to establish the value of derivative instruments and the profit and loss associated with those instruments. What concerns do you have about bank valuation of derivative instruments? Should bank regulators play a greater role in valuing derivative instruments?

2. The Group of 30 report on derivatives recommends that derivative transactions be accounted for on a mark-to-market basis by taking changes in value to income each period. Do you agree? Please explain.

3. Please provide your thoughts on bilateral and multilateral netting arrangements. Should capital adequacy standards recognize netting arrangements?

4. Do current international and domestic capital standards adequately reflect the risks associated with derivatives activities? Please explain.

5. Should banks have at least two directors that fully understand derivatives? Should bank personnel involved in derivative activities be required to pass competency tests? Should a banking organization have to pass a proficiency test before being permitted to deal derivative products?

Please provide any additional comments you feel will enlighten the Committee about the safety and soundness issues associated with bank derivative activities.

You will be given 5 minutes to summarize your written response. Banking Committee rules require that 200 copies of your written testimony be delivered to Room 2129, Rayburn House Office Building, no later than the close of business October 26, 1993.

Thank you for your cooperation. The Committee looks forward to your testimony. With best wishes.

Sincerely,

Henry B. Gonzalez
Chairman

HBG:dk

Martin Mayer
Brookings Institution
1775 Massachusetts Ave. NW
Washington, DC 20036
tel: 202-797-6125

Testimony to House Banking Committee, 10/28/93

Though I am identified before you as a guest scholar at the Brookings Institution, it is of course understood that the views I present are entirely my own, and that I do not represent the Brookings Institution or, in fact, anybody but myself.

You will by now have been given all the standard descriptions of derivative instruments, and I don't wish to add my own. But I think it important that you have in mind the mathematical origin of the term. A derivative in calculus measures the rate of change. It changes direction faster than the expression of which it is a function--indeed, one aspect of its utility is that it reveals the direction and the magnitude of motion. Similarly, the options, futures, swaps, swaptions and such that are your subject in this hearing will change in value far more rapidly than the currencies and securities from which they derive. This means, as the proponents of derivatives insist, that the nominal amounts of money in the transaction are irrelevant, because the underlying asset never changes hands. But it also means that the volatility of the instrument being traded is far greater than that to be found in the trading of the underlying security or currency.

I would like to preach from a couple of texts. The first is

a speech by Scott Pardee, chairman of Yamaichi International, formerly the director of currency trading for the Federal Reserve Bank of New York and vice-chairman of Discount Corp., to a so-called "Industry Summit" sponsored by MIT and the World Economic Forum about six weeks ago. "Each derivative product," he said, "is an exercise in product differentiation. As sellers of futures and options products, we are always seeking new strategies which will generate more commissions or trade at a wider bid-spread than we can earn on the underlying product." This suggested to Pardee "an FDA approach to financial services. . .[T]he Fed, the SEC, the CFTC and the SRO's should make a practice of asking what this new derivative product would be like five years from now and what can go wrong as a result. The creators of such products should be prepared to demonstrate that their invention will not prove to be a financial form of thalidomide. They would be liable for the results, both as firms and individuals, even if the individuals are now basking comfortably on their yachts in Florida, having taken the money and run."

The second text is an anonymous quote from a derivatives trader, quoted in James Grant's Interest Rate Observer. "The head of the derivatives department isn't going to go to the chairman of the firm and say there is a one-in-100,000 chance that he could blow the firm up," this worthy said. "You'd never be in the business if you were willing to admit that it may happen."

For argument's sake here and now, let us accept the dealer's

claim that as of this date the odds on a blow-up are one in a hundred thousand. The problem is that these odds will shrink with the passage of time. I name the law for myself, having been I believe the first to formulate it: risk-shifting instruments tend to shift risks onto those least able to bear them. I am working on a book about Lloyd's of London, where Mayer's law has received perhaps its most striking demonstration. While the Lloyd's market was profitable for the underwriters, the number of Names recruited to pledge their fortunes behind the Lloyd's policies was relatively small. Once the risks got beyond the understanding of the underwriters--and especially after the evidence that the asbestosis disaster was going to impose enormous penalties on insurers against workplace hazards--Lloyd's more than doubled its membership, bringing in people whose net worth would never previously have qualified them to provide backing for insurance policies.

One notes in this connection last week's call by the Bundesbank for more participation in derivatives trading by other countries and by non-financial enterprises, because "A broadening of the markets for derivative products would serve the interest of stabilizing all markets." In other words, the game is awfully risky right now, and we need new Names to make sure the insiders don't have to carry the risks. According to Knight-Ridder, the Bundesbank report said that derivatives products trading--<u>excluding currency futures and bond futures</u>--constituted 53% of all the business at German banks--and that 90% of all the business done

by German banks is now off the balance sheet. Of course, 90% of the capital of the German banks is probably in their hidden reserves, so it's safe enough. Except that the Bundesbank obviously thinks it isn't safe enough.

"Portfolio insurance" was designed to protect pension funds against losses in the stock market, hedging equity portfolios in part with the purchase of puts that permitted the funds to sell some fraction of their holdings at today's prices even if the market dropped. When the market crashed, it developed that a good part of this insurance was being provided by the widows of retired railway workers, who were being encouraged to increase their apparent income by selling naked puts.

The theory is Hyman Minsky's, and it's almost three decades old. Financial intermediation, Minsky argued, is inherently unstable, because good experience lulls lenders into the relaxation of their standards. At the beginning, bankers want their loans covered by predicted profits, then merely by cash flow, and finally by the belief that when the loan has to be rolled over, the borrower will have the credit to do so. In the markets we get PIK--pay in kind--junk bonds, where the issuer honors the coupon by issuing more paper instead of paying cash. And in banking, we get ADC loans to real estate developers with a many as five years of interest payments grossed-up in the loan. Congress had to write a loan-to-value ratio into law to make sure bankers didn't do it again.

In any financial market, less creditworthy counterparties

will offer more profitable deals. My favorite example of what happens under such circumstances is the ability of Banco do Brasil to expand enormously its nightly taking of Fed Funds in fall 1982. Mexico had gone belly-up that August, but Brazil was supposedly okay because the Brazilians had borrowed medium-term and longer. In fact, the medium-term market was closing against Brazil, and the Brazilians had to meet an ever-increasing part of their current account deficit in the overnight market in New York, eventually buying several billion dollars of Fed Funds every day. Suddenly the last straw fell on the camel, and on December 9, 1982, the CHIPS system at the New York Clearing House seized up. Brazil couldn't cover about $300 million, which sounds like peanuts today but it wasn't then--and, anyway, as economists should know but forget, it's these movements at the margin that we later call Fate. The gates to the computers had to be kept open until midnight, until Chemical and Citibank could rustle up the money needed for the next morning's settlements.

The next week, I had occasion to interview the treasurer of Chemical Bank, an exceedingly able young man. By then it was common knowledge within the banking community--though oddly enough neither the press nor the Congress ever paid attention--that Brazil had been rapidly increasing its takings in the Fed Funds market through the preceding months, shortening the maturities on its debt. Chemical had been a big and constantly growing seller of Fed Funds to Banco do Brasil. I asked the young treasurer why he'd done it. Hadn't he seen this pile-up of

overnight debt from the Brazilians? Well, yes, he replied, he'd seen it. But, he said, they were paying an extra eighth. . .

The derivatives trader, like any trader, is forever seeking to do business with suckers. In the derivatives market, we have already seen the fiasco with the British municipal councils, which took the unfashionable side of interest rate swaps because the banks paid them cash up front to do so and it looked like easy money. We've seen admitted losses on swaps with Olympia & York, which also needed the cash you could get by taking the "wrong" side of a swap, and we've seen Swiss Bank Corporation embroiled in a dispute with the banks that participated in an SBC swap with Macy's. When you mention that Ferruzzi Finanziera of Italy was a major player in the swaps market, people roll their eyes and turn away. At best, as the authors of the recent IMF report on International Capital Markets noted, "liquidity risk puts limits on the reliability of the methods used to control market risk and should generate skepticism over claims that risk control software has eliminated market risk as a matter for concern."

A recent report from the Group of 30, entitled Derivatives: Practices and Principles, argued that there were no serious problems here. Recommendation 19 in the report urged that the accounting profession establish uniform standards for valuing derivative instruments but that "pending the adoption of harmonized standards. . .dealers should account for derivative transactions by marking them to market, taking changes in value to

income each period." I refrain from taking cheap shots at bankers and regulators who play Chicken Little whenever anybody talks about marking the securities portfolio to market, but urge the world to mark the derivatives portfolio to market. The problem here, after all, is procedural, not theoretical.

If there are no accounting standards, how can anyone take a custom-tailored long-dated currency option and mark it to market? There is no market, just simulations. And different dealers may use different processes to determine what they call the market value of custom-made, long-dated swaps and options. I can write scenarios in which the opposite sides of a swaps transaction are both taking supposed increases in value down to the income statements, and the traders involved are both winning year-end bonuses for their cleverness. In a footnote to its 1992 Annual Report, Salomon Brothers claimed one and a half billion dollars of value in its 800 billion dollar off-balance-sheet portfolio, which meant that a third of its capital derived from such accounting. And we know from a recent court case that Salomon has paid some tens of millions of dollars to Ahmanson as compensation for misvaluing a swaps portfolio to Ahmanson's disadvantage. I am not saying that there was anything wrong with the accounting in the annual report, just that it would be nice if the regulators and the top management of the firms that deal in this stuff really understood what is going on. It was hard enough to keep a handle on the thing when all you had to worry about was the trader who was hiding the slips in a drawer.

In fairness, we most also recognize that a lot of the money the banks make in derivatives trading is really a legitimate commission on what are really brokerage services for customers. Just as a junk bond is a more liquid term loan, a swap may be a securitized forward contract. In both cases, the worry should be about the excesses, not the basic instrument. Still, this does not quite solve the accounting problem. A case can be made that accounting for such commissions should be like accounting for origination fees in normal lending: the money should be taken into income over the life of the loan or the swap, not up front. I note in passing that because the banks had fallen into the bad habit of taking renegotiation fees straight down to the bottom line when Third World countries were permitted to delay payments in the early 1980s, Congress in 1984 specifically required that such fees be amortized over the life of the contract. And even more remotely in passing--a kind of derivative to the tale--that the banks then responded by giving participants in renegotiation a bonus for signing up early instead of a fee, so they could receive immediate gratification. Devices to bring reported profits home this year have great appeal to traders.

It may be that standard accounting rules are not viable in this context. Given the maelstrom of different maturities represented in a typical set of hedged transactions, and the fact that many of the instruments acquired in these transactions will in effect not be held to maturity, efforts to slow down the recognition of apparent profits might blow the computers. Still,

the point should be argued and not left to the ministrations of those who can benefit by unsupervised assertions of their own profitability.

To the extent that accounting for derivatives may menace the profitability or even viability of individual institutions, a rigorous and believable repudiation of the old too-big-to-fail doctrine ought to be an effective government response. Margins at best are tight in this trading, and if the market imposes even a slight penalty on bids and offers from institutions that are suspected of doubtful reporting, they should be forced out of the game. Unfortunately, this discipline appears not to be present in the market. Robert Litzenberger, a Wharton school professor and president of the American Finance Association, reported in his presidential address in 1991 that in fact "Quoted swap rates do not reflect credit rating differences between the counterparties; i.e., firms do not pay-up to do swaps with highly rated counterparties."

Litzenberger attributes this unconcern to three unusual characteristsics of the market. 1) The nominal principal of the swap is never exchanged. 2) Entitites with ratings lower than single-A are not permitted to participate, and a downgrading to BBB triggers an immediate settlement of the swap at the stronger party's option. And 3) that under the terms of the standard swap document distributed by the International Swap Dealers Association the bankruptcy of one party gives the solvent party the right to cancel without payment if closing out the swap would

leave it a loser--without sacrficing the right to enter a claim against the bankrupt if closing out the swap would leave it a winner. Knowing much less than Litzenberger, I cannot avoid the belief that among the reasons why the swaps market doesn't price according to credit rating is everyone's confidence that should push come to shove the obligations of all the participants are in fact guaranteed by their central banks.

Moreover, repudiation of too-big-to-fail is never entirely believable when there is a hint of systemic risk, as there is here. The IMF report previously cited points out that during the currency turmoil of September 1992 it was virtually impossible to trade derivatives in the over-the-counter market, and that volume in exchange-traded currency futures and options doubled as people who had to hedge positions found their usual counterparties out of the market. Over-the-counter markets for non-fungible instruments collapse when panic strikes. There are perimeter defenses to disaster in the exchange clearing houses--notably the imposition of maintenance margins--that make them much more solid. Recognizing this difference, the usually level-headed Bank for International Settlements has suggested that a derivatives clearing house be established for non-standard instruments. I don't think it's just my ignorance that keeps me from seeing how you can do that. And if you could, of course, the contracts become fungible, which the CFTC has properly ruled means they can be traded only through public bids and offers on an exchange.

The industry's solution is bilateral netting. Each partici-

pant in the market should calculate a net amount for its payments due to or from each other participant, thereby reducing everybody's apparent total exposure. Historically, regulators have accepted netting by novation--that is, the reduction of the risk of a contract by entering into a countervailing contract with the same counterparty. I guess this is okay, though I worry that the end result of bilateral netting with selected counterparties might be the piling up of exposures with other parties. But even if each bank is in effect to be its own clearing house, I think the regulators would be wise to require a dedication of capital to cover the risk of default. Even CHIPS, with the great simplicity of payments clearing, now requires a one and a half per cent deposit of T-bills against a limited entry of uncovered payments. This is a lot trickier than that, and the Basel suggestions for risk-weighted capital allocation seem to me quite insufficient, especially for long-dated currency swaps and options, where the exposure in effect does include some of the principal amounts.

Finally, one must note that the profitability of this trading derives from market imperfections. If all were known that could be known, a company should not be able to borrow more cheaply in a foreign market than in its home market, the value of a long-dated interest-rate swap should be obvious from the difference between the price of a conventional bond and a zero-coupon bond at the same rate and duration, and the value of a currency swap should reflect that difference in interest rates to

be earned in the different currencies. Profits arising from market imperfections are presumably fleeting. Which brings us back to Scott Pardee's point about product differentiation, and the dangers of using such marketing techniques when vast sums of money can be lost.

Levels of concern on this subject are very high throughout the banking community. The Group of 30 document is really a whistle past the graveyard. The world of finance is always haunted, of course, but some of these ghosts are not just Halloween. I applaud the committee's desire to keep pressure on both the gentlemen and the players here. All the concern about safety and soundness that animated FDICIA can be frustrated in a few minutes' trading here, and everybody knows it.

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U.S. HOUSE OF REPRESENTATIVES

COMMITTEE ON BANKING, FINANCE AND URBAN AFFAIRS

ONE HUNDRED THIRD CONGRESS

2129 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-6050

October 6, 1993

Mr. Charles R. Taylor
Executive Director
Group of Thirty
1990 M Street, N.W.
Washington, D.C. 20036

Dear Mr. Taylor:

On October 28, 1993 the Committee on Banking, Finance and Urban Affairs will hold a hearing to examine the safety and soundness issues relating to bank derivative activities in United States and international financial markets. I would like to invite you or a designee from the Group of 30 to testify before the committee.

The Committee is interested in discussing the Group of Thirty's report: "Derivatives: Practices and Principles." The report brings up several interesting recommendations for both the users and the regulators of derivative products. As part of your testimony, please address the following issues.

1. Please provide a brief overview on the Group of 30's report on derivatives. Include a summary of the recommendations for legislators and regulators.

2. What do you think the role of regulators and Congress should be if the Group of 30's recommendations for dealers and end-users are not adopted?

3. The Group of 30's derivative report lists twenty recommendations for dealers and end-users. Do derivative dealers that do not adopt your recommendations pose any risk to the financial condition of a bank, the deposit insurance fund or the derivatives market?

4. If dealers are unable to implement your recommendations, should they be excluded from the derivatives market?

5. Are the Group of 30's risk management recommendations so costly that smaller derivative dealers would be financially strained to implement them?

6. Should there be directors on a financial institution's board that are thoroughly familiar with derivative activities, both in the institution and in the marketplace?

7. Are capital requirements for institutions that deal in derivative products adequate?

8. Do you see any regulatory role in using simulations and models in forecasting adverse market changes?

Please feel free to address any other issues that will shed light on current activities of the derivatives market.

Committee rules require you to submit two hundred copies of your testimony to Room 2129 of the Rayburn House Office Building by noon on Tuesday, October 26, 1993.

Additionally, I understand that the Group of Thirty is conduction briefings on its derivative product report. I would invite you to make a presentation before Committee staff on October 22, 1993 at 2:00 p.m. This would allow staff to gain a better understanding of the Group of 30's recommendations on this growing segment of the financial marketplace.

Sincerely,

Henry B. Gonzalez
Chairman

HBG:mpc

TESTIMONY OF
MARK C. BRICKELL

GROUP OF THIRTY GLOBAL DERIVATIVES STUDY GROUP

BEFORE THE COMMITTEE ON BANKING,
FINANCE, AND URBAN AFFAIRS

UNITED STATES HOUSE OF REPRESENTATIVES

OCTOBER 28, 1993

HEARING ON BANK DERIVATIVES ACTIVITIES

Chairman Gonzalez, members of the Committee on Banking, Finance and Urban Affairs.

Thank you for inviting us here today. My name is Mark Brickell. I served on the Working Group which organized, wrote and edited the Global Derivatives Study prepared for submission to the Group of Thirty. The Group of Thirty, chaired by Mr. Paul A. Volcker, is a group of central bankers, bankers, economists, and industrialists from around the world who share an interest in international economics and finance.

My colleagues on the Working Group--users of swaps, academics, swap dealers, lawyers, and accountants--worked under the direction of Dennis Weatherstone, Chairman of J. P. Morgan, and a distinguished group of senior financial experts including a Nobel laureate, three former banking supervisors, and the Chairman or President of eight international banks and securities firms. The group's composition reflects the diverse group of firms which compete across international boundaries in the swaps business. A list of the members of the Global Derivatives Study Group is attached hereto as Appendix A.

The Study was undertaken to look at risk management practices of experienced participants in derivatives activity. We focused most intently on the same types of

derivatives which are the subject of this hearing; privately negotiated swaps, options, and related transactions. These transactions, defined as "swaps" in federal statutes, enable bank clients to reduce exposure to a risk by assuming a different risk, or by paying cash. Note that the Study distinguished these privately negotiated transactions from standardized, exchange-traded derivatives--futures. And we emphasized that privately negotiated derivatives are not derivative securities.

Dealers and users of these transactions would have difficulty feeling neglected by financial supervisors. This week, in Washington alone, there have been three public discussions of derivatives--by banking officials, futures regulators, and this committee. But we welcome this hearing in particular. Legislators who focus on banking activities need to develop a better understanding of how developments in risk management are affecting banks, and risk managers need to clear away some misconceptions.

Practical Results: Principles of Good Management and Recommendations.

Before we examine the risks swaps bring to banks, and how they are managed, we should recall why the activity exists. Bank clients increasingly demand risk management

assistance. These transactions reinforce existing activities with clients, particularly lending and deposit taking.

These facts are sometimes obscured by public statements that "derivatives are too complex to understand," and that "they might pose dangers to the financial system." So when the Group of Thirty asked us to prepare the Global Derivatives Study, we were eager to do so. We wanted to demystify derivatives.

The Study reflects nearly a year of work by 26 Study Group members. The Group set out to describe derivatives activity at banks and other firms, and we did a thorough job in the Study's Overview. But we wanted to do more than describe the status quo. We wanted to have a practical effect, and we quickly realized we could do the most good by disseminating principles of good management.

As a result, the Global Derivatives Study became an important technology transfer operation. The leading firms in the derivatives business distilled their best risk management ideas into 20 principles of good financial management, which we recommended to managers of dealers and end-users. These principles include:

- Ensuring that derivatives are used in ways that are consistent with the overall risk management and capital policies of the firm.
- Valuing derivatives at market, at least for internal risk management purposes.
- Quantifying market risk under adverse market conditions and performing stress simulations to gauge the soundness of a derivatives portfolio.
- Assessing the credit risk arising from derivatives activities based on frequent measures of current and potential exposure against credit limits.
- Placing professional risk managers in independent, authoritative positions.
- Reducing credit risk by increasing use of multi-product master agreements with close-out netting provisions, and by working with other participants to ensure the legal enforceability of derivative contracts.
- Establishing sophisticated information systems capable of managing derivative risk.
- Adopting accounting and disclosure practices that will result in international harmonization and greater transparency.

Of course, end-users and dealers aren't the only ones who can take action to manage risk better. We also

identified important work for legislators and supervisors to do, to strengthen the system.

- First, regulators should recognize the benefits of "netting" arrangements and encourage the use of netting by tailoring capital adequacy standards that give full credit for the benefits of netting arrangements. These arrangements reduce credit exposure in the financial system.
- Second, the private and public sector should work together to reduce certain legal and regulatory uncertainties.
- Third, tax authorities should review and amend tax laws that discourage risk management through derivatives.
- Fourth, accounting standards should provide comprehensive guidance on the accounting and reporting of derivative transactions. Also, all parties should work for the international harmonization of such standards.

Who Uses Derivatives, and Why

Derivatives are used to lower funding costs, enhance yields, diversify sources of funding, hedge, and express market views through position taking. For example, if an American firm will be paid in foreign currency for goods it exports, it can see its profit margin evaporate if

the U.S. dollar strengthens before the goods have been paid for. Currency swaps can be used to hedge such future cash flows and reduce currency risk (i.e., the risk that the value of the foreign currency received in the sale will fall). The ability to provide services like currency swaps reinforces traditional bank activities, such as lending.

In a broader context, derivatives strengthen important linkages between markets. Most observers concur that, irrespective of derivatives, the world markets for trade and finance have become increasingly integrated and accessible. Derivatives have helped the process by intermediating markets efficiently and providing effective risk management tools that enhance the operation of global businesses. These linkages, most observers believe, have led to a safer global financial system. Because of derivatives, financial shocks may travel faster, but they also travel farther, and hence the impact is more widely dispersed [p. 34]. The contribution derivatives activity makes to financial markets, by providing an efficient conduit for financial risk flows, may be difficult to quantify, but is both favorable and substantial [p.64].

Banks' large and mid-size clients appreciate this risk management service and benefit from it. The three-fold

growth in outstanding amounts of these custom-tailored transactions between 1987 and 1991 [p.54], is strong evidence.

Putting Derivatives Risk in Perspective

Knowing that derivatives activity is good for American corporations and government entities is not enough. The Global Derivatives Study Group also asked whether providing these services to clients is good for the banks. Are swap dealers simply absorbing their clients riskiest problems in the banking system? There is, as we said in the report, "no room for complacency" about this issue.

The Group of Thirty Study explores the question in two ways:

(a) by looking at the way risk is managed by the dealer, and

(b) by examining and ranking the possible systemic risks of swaps.

This is what we found. The risks of swaps are the same types of risk which banks manage in traditional business activities--deposit taking and lending, or managing portfolios of bonds. When banks write swaps they are exposed to:

(a) credit risk - the risk that the counterparty on a valuable swap defaults;

(b) market risk - the risk that a change in interest rates or other market factors will reduce the value of the portfolio;

(c) operations risk - the possibility that a processing error will cause a loss; and

(d) legal risk - the risk that swap documents, or important sections of them, turn out to be unenforceable, and that losses result.

The Study Group also examined and ranked possible sources of systemic risk. Some were clearly more important than others; legal risk was at the top of the list, and this lead to one of our recommendations. Greater harmony and increased transparency in accounting practices was also recommended. Other concerns, and settlement risk in particular, were recognized as being of systemic importance, but not significantly increased by swaps activity. The Study urged careful management of risks, but concluded, on balance, that it was hard to find justification for the view that derivatives pose a greater systemic threat than other financial activities.

To help explain how this conclusion was reached, let's examine one of these risks--credit risk--in greater detail. It is the largest risk swap dealers face. The

Group of Thirty report cites surveys of historical swap credit loss experience over ten years and concludes that

(a) swaps credit risk is higher quality than the risk of bank loans at the same firm, so

(b) being involved in swap activity increases the average credit quality of a bank's credit exposures and the diversity of credit risks to which a firm is exposed [Appendix: p. 135].

Some statements about swaps give the impression that the credit risk of swaps is much larger than it truly is. They confuse the "notional amount" of swap transactions (the amount of debt being hedged or managed by the swap) with the value of the transactions (the amount one would receive by unwinding or selling them).

The chart in Appendix A may help put swap credit risk into perspective.

At the lead banks of the top 50 U.S. holding companies, on December 31, 1992, the notional amount of outstanding derivatives transactions was $6.3 trillion. Compare that to the uncollateralized portion of the value of those transactions (estimated by J.P. Morgan economists assuming that netting reduces swaps credit exposures by 40%-

60%, as indicated by Fed Chairman Alan Greenspan, and that netting benefits for fx forwards are somewhat less):

Derivatives (gross basis)	$144.0 billion
Derivatives (net basis)	$ 90.9 billion

In other words, derivatives credit exposures amount to about 1.4% of the notional amounts. Note the important way in which credit risk has been reduced by the netting legislation which this Committee has led the Congress in enacting.

And note also the proportion of total credit exposure which comes from swaps. The market value of the banks' derivatives was only 5.5% of year-end 1992 credit exposures. This relationship is shown in the next chart (Appendix B).

Findings like these do little to justify the claim that these activities create large "systemic risks".

Quality of Derivatives Risk Management

These statistics may give the Committee a better perspective on the risks added to the banking system by derivatives dealing, in relation to the same risks arising from traditional banking activities. But we asked ourselves one more question: is that risk being well managed?

The Global Derivatives Study gives an implicit answer to that question, too. The principles of good

management compiled by the Study Group include some time-tested ways of doing business, and several new ideas. As Charles Taylor of the Group of Thirty describes it: "best practice, not minimum practice." These ways of managing financial risk are widely used by swap dealers, and particularly by swap dealers in the U.S. This is clearly the place in banks where much of the most advanced thinking about risk management is taking place.

The Role of Derivatives Activity in the Banking System

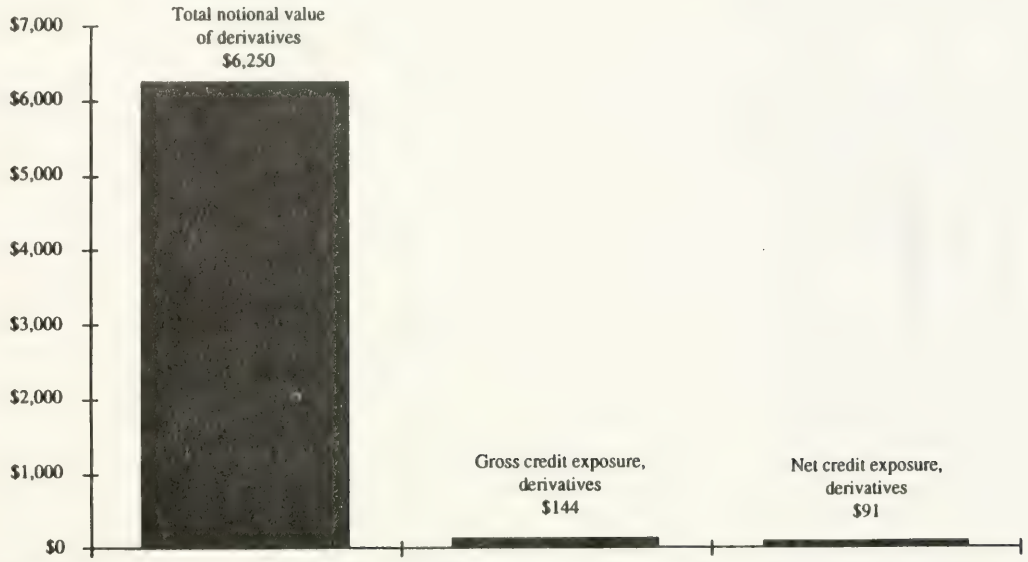
Yet, as the Group of Thirty Report emphasizes, the risks of swaps are the same types of risks contained in traditional banking activities. And this is why the same techniques that dealers use to manage swap risks can be used to manage the risks of loans and deposits, securities portfolios, and the other financial risks of banking. Some of the firms represented on the G-30 Study Group are already far along in applying these principles to manage traditional activities, with impressive results.

Observing this phenomenon, some members of the Global Derivatives Study Group would say that derivatives are now less a "product" than a way of thinking about risk. The principles of good management outlined in the report are not necessarily the only means to good management, but they are a prime example of this way of thinking. Because this

way of thinking about financial risk comes along with involvement in derivatives activity, bank involvement in derivatives is a healthy development. And as use of derivatives expands and the principles of good management are more widely used, the U.S. banking system is likely to become safer and stronger, more competitive, and better able to fulfill its role as a provider of financial services in this country and overseas.

Appendix A

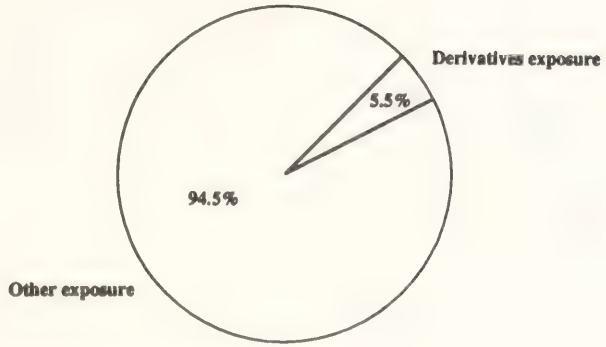
Derivatives activity and credit exposure, lead banks of 50 largest bank holding companies, December 1992
US$ billions



Source: *Consolidated Reports of Condition and Income*, submitted by insured banks to their primary federal regulators.

Net credit exposure for derivatives is calculated from gross credit exposure by assuming 41% of swaps contracts are subject to enforceable master netting agreements. Forward foreign exchange contracts assumed not yet subject to netting agreements.

Total credit exposure, lead banks of 50 largest bank holding companies, December 1992



Source: *Consolidated Reports of Condition and Income*, submitted by insured banks to their primary federal regulators.

Total credit exposure includes total loans and leases, federal funds sold, reverse repurchase agreements, loan commitments, standby letters of credit, securities lent, and net derivatives credit exposure.

Appendix B

Appendix C

Other information sought by the Committee, and not addressed in the preceding portion of the testimony, is outlined below.

Q. **What do you think the role of regulators and Congress should be if the Group of Thirty's recommendations for dealers and end-users are not adopted?**

A.
- These 20 principles are not necessarily the only path to good management, as the Study explains [p. 7].
- The principles represent the best principles we could find. We set the hurdle high. They are not a "minimum" or a "standard" for codification.
- The Federal and State Banking Supervisors pay close attention to the derivatives activities of banks and thrifts under the present regulatory framework. In their role as supervisors, these agencies ensure that banks (a) understand the business activities which they undertake, and (b) conduct those activities in a safe and sound fashion. This is as true for derivatives as it is for other banking activities.
- Setting particular standards for derivatives transactions would be at cross-purposes with the existing framework of supervision, with its focus on the common risks contained in derivatives and traditional instruments.
- Regulation cannot be a substitute for good management.

Q. If dealers are unable to implement your recommendations, should they be excluded from the derivatives market?

A. Absolutely not. We welcome competition. We believe it improves our own competitiveness by making us work harder. We would be deeply distressed if our principles of good management were turned into a device to create barriers to entry for potential competitors. It would undo much of what swaps dealers have worked for in the past 10 years--an industry without barriers to entry which is fiercely competitive across international boundaries and financial sectors.

Q. The Group of Thirty's derivative report lists twenty recommendations for dealers and end-users. Do derivative dealers that do not adopt your recommendations pose any risk to the financial condition of a bank, the deposit insurance fund or the derivatives market?

A. All banking activities pose risk. Our objective is to manage those risks carefully. The principles of good management outlined in the Study can help banks achieve the goal of careful risk management, but even using these principles won't make financial activity riskless.

As we pointed out in the Study, these twenty principles are not necessarily the only path to good management [p.7].

Q. Are the Group of Thirty's risk management recommendations so costly that smaller derivative dealers would be financially strained to implement them?

A. The Group of Thirty Study recognizes that the scope of each firm's risk management structure should take into account the size of the firm's derivatives activity. Each firm must make its own assessment of the potential benefit arising from investing to improve risk management capabilities for its derivatives business. Such investments will only be beneficial at firms where credit or market risk exposures contribute meaningfully to potential revenues or expenses.

It is certainly possible that this investment would not be worthwhile for some, particularly where derivatives dealing makes up a small portion of the firm's activity.

Q. Do you see any regulatory role in using simulations and models in forecasting adverse market changes?

A. Stress simulations should be performed by banking institutions as part of good risk management practice. To the extent that supervisors run their own simulations, we believe it may help them to better understand the exposures and management challenges faced by the institutions they supervise.

Q. Are capital requirements for institutions that deal in derivative products adequate?

A. No. The Group of Thirty study specifies that existing capital requirements fail to take full account of the reduction in the credit risk achieved through the netting provisions of Master Swap Agreements. Failure of banking supervisors to recognize the impact of legislation initiated by this committee in 1989, and other important U.S. legislation since then (Bankruptcy Code and FDICIA),

- hampers the competitiveness of US banks, and
- by tying up scarce capital unnecessarily, may prevent them from expanding loans to businesses and consumers.

Banking Supervisors in this country have been working with the Basle Supervisors Committee to amend the Risk-Based Capital Guidelines in order to recognize netting. The difficulty banks have experienced in obtaining recognition in capital requirements of the good work done by Congress is a reminder of the difficulties of developing sensible capital rules and changing them in a timely way to reflect important developments.

Q. **Should there be directors on a financial institution's board that are thoroughly familiar with derivative activities, both in the institution and in the marketplace?**

A. The directors of financial institutions should be sufficiently familiar with the business of the firm that they can evaluate the performance of management. This does not mean that board members have to be familiar with every detail of the derivatives business, or all aspects of financial risk management. The recommendation in the Study reflects the policy making role of the board.

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U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON BANKING, FINANCE AND URBAN AFFAIRS
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October 13, 1993

Mr. David S. Berry
Director of Research
Keefe, Bruyette & Woods
2 World Trade Center - 85th Floor
New York, New York 10048

Dear Mr. Berry

On October 28, 1993 at 10:00 a.m., in Room 2128 Rayburn House Office Building, the Committee on Banking, Finance and Urban Affairs will hold a hearing to examine the safety and soundness issues associated with bank derivative activities. You are respectfully invited to testify at the hearing.

So that the Committee may better understand the various issues involving bank trading and derivatives activities, please provide written answers to the following questions by the close of business October 26, 1993.

1. What financial products do banks most commonly trade for their own account? for their customer accounts?

2. Do banks have adequate risk management systems, personnel and knowledgeable upper level management necessary to safeguard against the risks posed by derivatives?

3. High growth rates in a certain bank activity can sometimes be a precursor to problems. What are your concerns regarding the high growth rate of bank trading activities? Does the high growth rate of trading-related activities translate into greater risk taking by banks? Should bank regulators require banks to limit the growth of bank trading activities?

4. Your report reveals that the large money center banks are reporting record revenues from trading activities. Given that fact, is it reasonable to assume that non-money center banks will seek to increase their trading activities, or for some, engage for the first time in trading activities? What risks

does increased bank participation in trading activity pose to the financial system or individual banks? Should the bank regulators require a bank to pass a proficiency test prior to engaging in significant trading activities?

5. What percentage of bank trading activities is foreign exchange related? How has this segment of bank trading activities grown over the past five years? What are the special risks associated with foreign exchange related trading and are banks able to control those risks?

6. Is bank financial statement disclosure of derivative-related activities and trading activities adequate to determine the risks posed by those activities? How could disclosure be improved domestically and internationally?

7. Is it possible to determine the extent to which banks engage in speculation versus serving their customers? To what degree do bank trading activities involve speculating for their own account? To what extent does proprietary trading raise the risk of failure at a bank?

Please feel free to address any other issues that will contribute to the Committee's understanding of bank trading and derivative activities.

You will be given roughly 5 minutes to summarize your written remarks. Banking Committee rules require that you provide 200 copies of your written testimony be delivered to Room 2129, Rayburn House Office Building, no later than the close of business October 26, 1993.

Thank you for your cooperation. The Committee looks forward to your testimony. With best wishes.

Sincerely,

Henry B. Gonzalez
Chairman

HBG:dk

MONEY-CENTER BANKS' TRADING ACTIVITIES

Testimony provided to the House Committee on Banking, Finance and Urban Affairs
by David S. Berry, Director of Research
Keefe, Bruyette & Woods, Inc.
October 28, 1993

What financial products do banks commonly trade for their own account? or their customer accounts? What percentage of bank trading activities are foreign exchange related? Is it possible to determine the extent to which banks engage in speculation versus serving their customers?

U.S. banks trade a wide variety of instruments, including: interest-rate and currency swaps, U.S. and foreign government debt instruments, money-market securities, corporate debt securities, lesser-developed country loans and bonds, foreign currencies, equities, equity derivatives, commodities, and commodity derivatives. A portion of banks' trading activities involve exchange-listed instruments (e.g., financial futures), but the majority of banks' trading activities do not.

Since foreign-exchange and interest-rate-related trading strategies have become increasingly inter-related, many major U.S. money-center banks have increasingly lumped the results of all their trading activities into one line item on the income statement, so separate foreign exchange revenue data have become harder to come by. Regulatory reporting still separates foreign exchange from other trading data.

The majority of banks' trading activities are directly related to customer activities. For example, a corporate borrower may wish to exchange dollars into yen or an investor may wish to swap fixed-rate debt into floating-rate debt. As part of their role as dealers, banks cannot help but incur market-risk (the risk that a bank will incur a gain or loss as a result of price changes), and banks actively manage the market-risk that they take on. Frequently, different customers have offsetting needs (e.g., one wants to exchange dollars for yen, the other yen for dollars), so a bank will be able to offset the risks it incurs in a trade with one customer with a trade with a different customer.

To be an efficient financial intermediary, however, a bank cannot wait for another customer with an offsetting need to show up before serving an existing customer. As a result, banks manage market risk through a portfolio approach, and there may be a large number of individual transactions that are ultimately offsetting rather than just one. As they manage this process, banks will effectively be positioned for their own account for certain kinds of price movements (in a controlled way, subject to specified limits), and so it is inevitable that banks, as dealers, will incur and manage market risk for their own accounts as they satisfy customer needs. Clearly the instruments at which the banks are at risk for their own account are the same instruments that are being traded to satisfy customer needs.

In addition, some banks have established separate proprietary trading groups whose mission is to trade for the bank's own account away from customer activities. While such groups may be separately managed, we believe that the

instruments traded would still, in most cases, be the same instruments, or kinds of instruments, traded on behalf of customers.

Different banks' estimates of the split between customer-driven and proprietary trading should be understood to be necessarily vague. However, Chase Manhattan and Chemical Banking have suggested that their customer-driven activity makes up something on the order of 80% of their trading revenues. Bankers Trust, a company perceived to be more active in proprietary trading than other money-center banks, has estimated that over 60% of its trading activities relate to customer-driven activity. These estimates may not have been made on the basis of the same definitions and should be taken with a grain of salt, but they should provide some notion of the scale of proprietary trading activity at major U.S. banks.

Do banks have adequate risk management systems, personnel and knowledgeable upper level management necessary to safeguard against the risks posed by derivatives?

At one level, there is no way for an outsider, working only from publicly available information, can possibly make a conclusive judgment about the risk-management systems in place in a bank. This applies not just to the management of banks' trading desks but to their lending operations as well. Conclusive evaluation of existing risk-management systems can only be performed by those with extensive resources and insider access: accountants and regulators.

However, as an outsider we can make certain observations and judgments. For example, we note that the CEOs of two of the nation's money-center banks most actively involved in trading and derivatives activities were themselves once traders: Bankers Trust's Charles Sanford and J P Morgan's Dennis Weatherstone.

As bank analysts, we have spent considerable time and resources studying the management of market risk and interviewing individuals actively involved in the management of market risk at the major money-center banks. Our general conclusion is that, while individual banks' techniques may vary in the details, there is a broad consensus about what market risk is and how it should be managed, and that the techniques used to manage risk at the major money-center banks are sufficiently sophisticated to handle the risks involved.

The management of market risk is integral to all the major money-center banks' trading activities, whether customer-driven or proprietary. Clearly defined limits, based on the traded instruments' volatility and liquidity, are in place for individual traders, trading desks, and overall trading groups, and these are designed to limit the loss incurred on adverse price movements. Based on our conversations with market-risk managers at different banks, the potential for loss on individual trades is much smaller than outsiders might imagine. To the extent that banks make good profits from incurring market risk, it reflects the accumulated gains on many small positions rather a single payoff on an enormous bet.

It should also be understood that banks earn trading profits in ways other than by incurring market risk. For example, dealers capture the difference between bid and offer prices on traded instruments. Further, many derivative transactions are entered into in order to satisfy particular customer needs, and banks will earn a profit for structuring tailor-made transactions. Finally, to the extent that derivatives transactions involve exposing the bank to counterparty credit risk, banks must price those transactions for that credit risk. If credit risk is properly priced, it will also be a source of profit.

While risk-management practices have evolved over the last decade, the basic techniques for

measuring and managing market risk in the derivatives business are not materially different from those involved in measuring and managing market risk in any trading activity. Thus, from the point of view of market-risk management, the growth of the derivatives business should be seen as an extension of activities that the major dealer banks have been involved in for decades.

What does the historical record show?

Perhaps the best way for an outsider to assess banks' management of their trading activities is to examine the historical record of those activities. As a specialist in the banking industry, KBW has developed and maintains an extensive data base on bank performance. From this data base, we have extracted the quarterly trading profits (and losses) for the seven largest trading banks from 1983 through the most recently released 1993 results. Those banks are: Citicorp, Chemical Banking, J P Morgan, Bankers Trust, Chase Manhattan, First Chicago, and BankAmerica. The data are presented at the end of this written testimony. (Data for Manufacturers Hanover and Security Pacific have been combined with data for Chemical Banking and BankAmerica to reflect those two bank mergers.) All told, 373 different bank quarterly reports are embedded in this data.

The important observation to make is that the major dealer banks have almost never posted a quarterly loss from their trading activities. Over the ten years (plus) covered, quarterly trading losses were posted only four times -- once by J P Morgan and three times by First Chicago. Cumulative losses incurred in those quarters were just $19 million. These are absolutely dwarfed by the trading revenues earned in the other 369 quarters examined: $35.9 billion. The fact that the banks' trading revenues have been so consistently profitable indicates that the proprietary risk taken by banks in their trading activities is comparatively small and evidently well managed.

Growth of trading activities

Trading activities have grown rapidly at a handful of major U.S. banks over the last decade. We have shown this by plotting the combined trading revenues earned by the seven large U.S. trading banks over the last ten years at the end of this written testimony. While trading results are clearly volatile quarter to quarter, the growth trend over ten years is undeniable.

Growth has occurred reflecting the increased volume of tradable instruments -- a reflection in turn of the increase in asset securitization -- and the increased volatility in interest-rate and currency markets (especially in the last year). Over the ten-year span, the growth of the derivatives market is probably the single biggest factor behind the growth in banks' trading revenues. The growth of the derivatives market, in turn, reflects the increased acceptance by investors and issuers of derivative products as a cost-effective tool to enhance yields, reduce funding costs, and manage risk. Innovation -- both in terms of computer and communications technology and on the part of academics and bankers in developing sophisticated methods to assess and price risk -- has played a key role as well. At the same time, bankers have devoted an increased amount of personnel and capital to develop global trading networks and comprehensive risk-management systems.

High growth rates in certain bank activities can sometimes be a precursor to problems. What are your concerns regarding the high growth rate of bank trading activities? Does the high growth rate of trading-related activities translate into greater risk taking by banks? Should bank

regulators require banks to limit the growth of bank trading activities?

Rapid growth in loan portfolios has often been a precursor to problems in banking. The typical pattern has been that banks, as a group, extend excessive amounts of credit to a narrow sector of the economy, thereby inflating asset values which ultimately collapse. The rush to lend money to oil and gas service and supply companies in Texas and Oklahoma in the late seventies was a classic example. The increased level of trading activity at the money-center banks over the last decade does not, however, follow that pattern.

The key difference is that, while derivative transactions do involve credit risk, they do not in themselves involve the extension of credit. For example, in an interest-rate swap a bank may elect to pay a fixed-rate of interest to a counterparty is exchange for the counterparty paying a floating-rate of interest to the bank. If rates don't change, then no payments are made. If rates rise, then the floating rate will exceed the fixed rate, and the counterparty will pay the bank the difference. In this sense, a bank must be concerned about the counterparty's capacity to fulfill its obligation, and in this sense the derivatives business does involve credit risk. Derivative transactions are quoted in terms of their notional value, and that notional value is used to translate the terms of a derivatives contract and current market rates into the actual dollars that are paid by one counterparty to another. However, that notional amount is never at risk in a derivative transaction since it was never lent out.

To go back to Texas: If banks as a group decide to lend money on drilling rigs, then the price of drilling rigs is likely to rise. However, if banks as a group decide to enter into interest-rate swaps with drilling rig owners, there is no reason whatsoever to think that the price of drilling rigs will rise or fall.

Most of the players in the global derivatives markets are rated investment grade, and credit losses on derivative transactions according to the International Swaps Dealers Association have been quite low. The largest credit exposures in U.S. banks' derivatives portfolios are to other OECD banks -- themselves regulated, well-capitalized institutions. Credit losses have occurred in the derivatives business, but they have been of manageable size. Banks use the same credit-management techniques in their derivatives business that they use in their lending businesses, with an eye towards avoiding industry and individual obligor concentrations, so it seems reasonable to believe that the good credit experience had to date by banks in the derivatives business is likely to continue.

Rapid growth in the derivatives business could give rise to other kinds of problems, however. Rapid growth in any business activity could outstrip risk-management systems, available technology, or back-office systems. A breakdown in those systems, in turn, could lead to losses. While there is little evidence to date of that happening on a scale noticeable to an outside analyst, it is an area that deserves bank management and regulatory attention.

Barring evidence of a specific need, we are generally opposed to government-mandated limits to growth to activities in the private sector. Should U.S. bank regulators hinder the growth of banks' trading-related activities, the net effect would be to cede profitable business to non-U.S. banks. That said, it is of course true that should an individual bank attempt to grow activities at a rate clearly in excess of its capacity to manage those activities, bank regulators should intervene.

Increased scale is a benefit

The increased scale of the derivatives business (and trading more generally) is actually a benefit

from the point of view of risk management. It is a generally accepted tenant of portfolio theory that the risk inherent in a diversified portfolio is substantially less than that inherent in a single asset. Thus, the more different instruments there are to trade, all other things being equal, the less risky a bank's trading activities would be. (Assuming the bank limits itself to trading instruments in which it naturally deals with customers.)

Further, the more different counterparties there are to trade with, the more liquid a given market is. Liquidity is a key risk in market-risk management; it refers to the capacity of a trader to unwind a position without changing (materially) the prevailing price of the traded instrument. The more participants there are in a market (each with his own point of view), the greater the liquidity.

Will high returns in trading attract others into the business?

Among U.S. commercial banks, the leaders in trading revenues are J P Morgan, Bankers Trust, Citicorp, and to a somewhat lesser extent Chemical Banking. Chase Manhattan, First Chicago, BankAmerica are also significant players, and they are increasing their commitment to this area. Other banks, such as NationsBank, are interested in stepping up their capacity to offer risk-management services to their clients. Since each of these institutions has either had considerable experience in managing market risk or has adequate resources to devote to the risk-management process, we are hard pressed to be concerned about their increased level of activity.

It may happen that smaller banks, with less experience, also become interested in getting into these businesses, and it is possible that smaller banks may not set up adequate systems to control the risks inherent in the business. However, a major constraint applies: Most of the derivatives business from the dealer perspective relates to customer-related activity, and it is not clear to us that the market for risk-management products yet extends to the middle-market companies that are likely to dominate a smaller bank's corporate customer base. We presume that under existing practice, the appropriate regulatory bodies would be alerted to pay attention if a bank attempted to expand rapidly beyond its areas of proven competency.

Is disclosure of trading and derivatives activities adequate?

Disclosure certainly could be better. It is current practice for most of the major dealer banks to report their trading revenues in a single line-item, combining the results of all instruments traded. In J P Morgan's 1992 annual report, a more helpful breakdown was provided by dividing trading-related revenues (including associated net interest income) into product categories. One can imagine going further, and breaking down trading-related activities by geography or by industry type, though it's not clear that our understanding of the market-risk of these activities would be materially enhanced by collecting data on twenty volatile line items instead of one. An understanding of credit risk inherent in the business could be provided by breaking down credit exposures by investment grade or by industry type.

In our conversations with risk-managers at the money-center banks, we have been primarily interested in process questions: understanding the organizational structure of trading desks and the risk-management groups, understanding the kinds of limits imposed on traders and trading desks, getting a flavor for the kind of losses that are likely to be incurred from adverse price moves over a given time period. Increased discussion of risk-management processes in

Management's Discussion and Analysis would be helpful.

As equity analysts, we are always interested in more disclosure, but we also think that this is an issue best settled through negotiations between analysts and investors on the one hand and bank investor relations representatives on the other hand. Certain large banks should be expected to take a leadership role in disclosure. But let us make clear that this is certainly not an area where a Congressional mandate would be appropriate. Analysts' disclosure needs change with the times, and it would be extremely counterproductive to lock companies into one form of disclosure.

Trading activity is profitable. Profitable banks are less likely to make risky loans.

Understandably, the House Committee is concerned that derivatives activity may pose a threat to the FDIC insurance fund. It is hoped that this testimony has been of assistance in understanding that it is highly unlikely that the major U.S. money-center banks' activities in their trading and derivatives businesses pose any significant threat to the fund. There is, however, a further point that should be appreciated.

Over the last fifteen years, many U.S. banks have been involved in a series of lending debacles: oil and gas lending, lesser-developed country lending, leveraged buyout lending, and commercial real estate lending have been some of the more notorious examples. It is our view that the banks were prone to engage in higher-risk lending activities because of structural change in the industry. As traditional customers left the banking industry (for example, as low-risk corporate borrowers left the money-center banks for the commercial paper market), so the banking industry went in search of new, riskier customers. In hindsight, there is no question the banks were not adequately compensated for the higher risk they so incurred. What made the banks prone to take on excessive risk were the inadequate profits that could be earned from servicing their traditional customers.

With the development of the derivatives market, the major U.S. banks have developed a new way to serve their traditional corporate customer base profitably. The product today is not credit but risk-management. It is a product of value to customers and one they are willing to pay for. The money-center banks are earnings substantial profits from these activities without, in our view, incurring significant credit risk or unmanageable market risk. This is good news, not just for the banks, but for the health of the banking system more generally since banks earnings good profits will be less inclined to seek out excessive credit risk.

MONEY-CENTER BANKS' TRADING REVENUES

1983-1993

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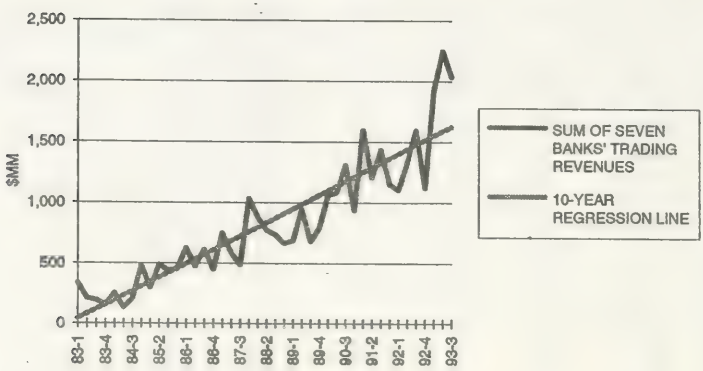
	Citicorp	Chemical Banking*	J P. Morgan	Bankers Trust	Chase Manhattan	First Chicago	BankAmerica*	Sum of 7 banks
83-1	129	37	49	23	48	10	39	334
83-2	90	15	20	25	31	5	23	209
83-3	91	16	1	12	32	9	32	193
83-4	46	28	23	10	30	14	4	156
84-1	101	26	37	37	33	11	9	254
84-2	53	16	-9	1	26	11	34	132
84-3	86	21	5	24	38	7	25	205
84-4	161	55	49	72	51	9	85	481
85-1	123	31	30	15	30	-1	66	296
85-2	158	74	77	37	65	22	56	489
85-3	176	50	71	11	51	29	49	438
85-4	111	73	71	59	58	27	54	454
86-1	134	77	118	91	82	36	85	624
86-2	136	55	88	28	72	29	58	473
86-3	156	76	76	77	73	43	113	613
86-4	148	52	48	28	64	23	86	450
87-1	224	99	95	101	83	26	120	748
87-2	147	97	74	93	49	-1	123	582
87-3	106	62	36	118	79	4	82	487
87-4	153	131	116	403	95	57	76	1,030
88-1	279	134	104	48	125	51	135	876
88-2	246	115	74	118	93	37	91	773
88-3	169	113	118	116	98	50	71	735
88-4	199	90	78	93	63	54	86	664
89-1	207	100	77	155	72	-7	87	690
89-2	208	128	138	194	107	52	119	943
89-3	152	109	97	82	106	38	94	679
89-4	160	101	106	151	98	56	123	794
90-1	195	124	213	280	92	41	115	1,061
90-2	204	120	234	255	103	36	129	1,081
90-3	294	156	300	264	125	41	129	1,308
90-4	235	119	212	227	20	46	77	936
91-1	333	166	446	370	89	43	146	1,593
91-2	263	148	235	329	73	42	117	1,207
91-3	254	231	371	323	72	50	132	1,433
91-4	316	126	245	207	101	51	104	1,150
92-1	267	228	165	216	74	31	124	1,105
92-2	314	170	287	335	100	37	86	1,329
92-3	451	226	313	244	180	75	106	1,595
92-4	299	229	200	101	114	34	144	1,121
93-1	457	252	459	348	175	55	164	1,918
93-2	572	298	520	405	187	92	172	2,246
93-3	478	268	464	431	186	77	132	2,036

* *Chemical Banking data prior to 1991's fourth quarter pro forma for merger with Manufacturers Hanover.*
BankAmerica data prior to 1992's second quarter has been combined with Security Pacific's.
Security Pacific was purchased by BankAmerica April 1992.

A DECADE OF MONEY-CENTER BANKS' TRADING REVENUES



GAIN & LOSS QUARTERS		
Time period	10 YEARS (PLUS) 83Q1 - 93Q3	5 YEARS 88Q4 - 93Q3
Number of quarters Number of banks observed * Number of quarterly observations	43 9 373	20 9 166
Number of loss quarters Cumulative loss	4 ($19 million)	1 ($7 million)
Number of gain quarters Cumulative gain	369 $35.9 billion	165 $24.9 billion

** Banks observed include: Citicorp, Chemical Banking, J P Morgan, Bankers Trust, Chase Manhattan, First Chicago, BankAmerica, and -- until their merger into other money-center banks -- Manufacturers Hanover and Security Pacific.*

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PERSPECTIVE ON TRADING REVENUES

For the handful of banks for which trading is a significant line of business, second-quarter results were outstanding. Declining interest rates worldwide, turmoil in the European currency markets, and continued growth in customer-driven risk-management businesses drove trading results to new records across the board. Almost all these banks posted second-quarter earnings well in excess of expectations.

Investors were unimpressed. Most evidently believe that strong trading results are "here today, gone tomorrow," and should largely be treated as non-recurring gains. Without for a moment denying that second-quarter trading profits were exceptionally strong, we do think investors would benefit from a longer-term perspective on these banks' trading activities. In this report, we examine trading results over the last decade for the largest trading banks. Our most important conclusions are:

Trading is a growth business. Combined trading revenues for the largest trading banks have grown at a 17% compound annual rate over the last five years. That statistic does not take into account the extraordinary results posted in 1993's first half (up 74% year-over-year).

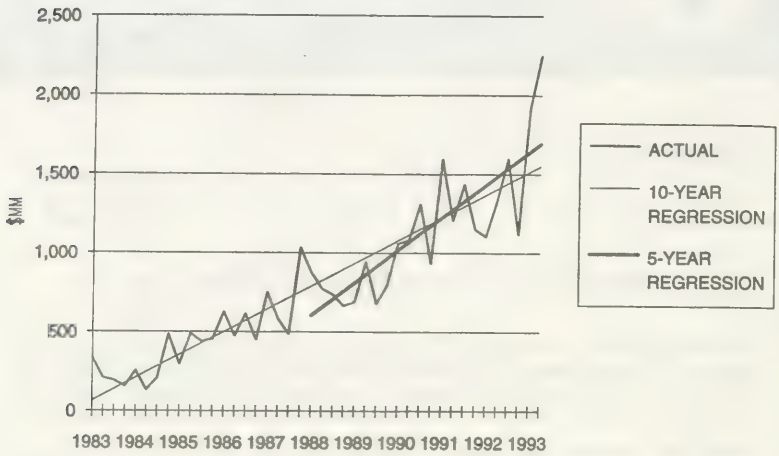
Variations in trading results have caused less bottom-line earnings volatility than have variations in credit costs, notwithstanding that individual banks' trading results exhibit significant quarter-to-quarter volatility. None of the six largest trading banks has posted a single quarterly trading loss in the last nine years.

Among U.S. commercial banks, trading expertise is highly concentrated. Moreover, the largest players' trading results would appear to be less volatile than those of smaller players. This reflects the breadth of their franchises and the sophistication of their risk-management systems.

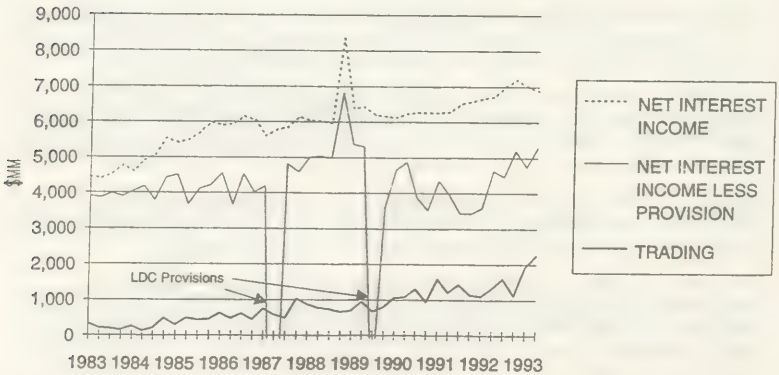
In our view, **investors are not appropriately valuing the revenue streams derived from these banks' trading activities.** While it is difficult to disaggregate investors' views about trading from their views about other aspects of bank performance, we suspect that concerns about trading volatility and a failure to appreciate the growth characteristics of trading revenues depress these companies' stock valuations. The stocks of most of the important trading banks all trade at a price/earnings multiple discount to the average bank stock.

KEEFE, BRUYETTE & WOODS, INC.

MONEY-CENTER BANKS' TRADING REVENUES



REVENUE VOLATILITY: NET INTEREST INCOME, PROVISION, AND TRADING



Methodology: We've looked at the quarterly trading revenues of seven major money-center banks for the last ten and a half years to gain a long-term perspective on the trading business. The banks included are: Citicorp, J P Morgan, Bankers Trust, Chemical Banking, Chase Manhattan, BankAmerica, and First Chicago. Chemical Banking's trading results include those of Manufacturers Hanover prior to those two companies' merger in December 1991. BankAmerica's data include Security Pacific's trading results prior to Security Pacific's purchase by BankAmerica in April 1992.

Observation: **Trading is a growth business.** Despite volatility quarter-to-quarter, and notwithstanding that trading results in the first half of 1993 have been exceptionally strong, over the long term trading revenues have shown a strong secular growth trend. In the mid-eighties (1985-87), combined trading revenues for these seven banks averaged $557 million per quarter. In the early nineties (1990-92), combined trading revenues averaged $1,243 million per quarter, 123% higher. Between those two three-year periods, average quarterly combined trading revenues grew at a 17% compound annual growth rate.

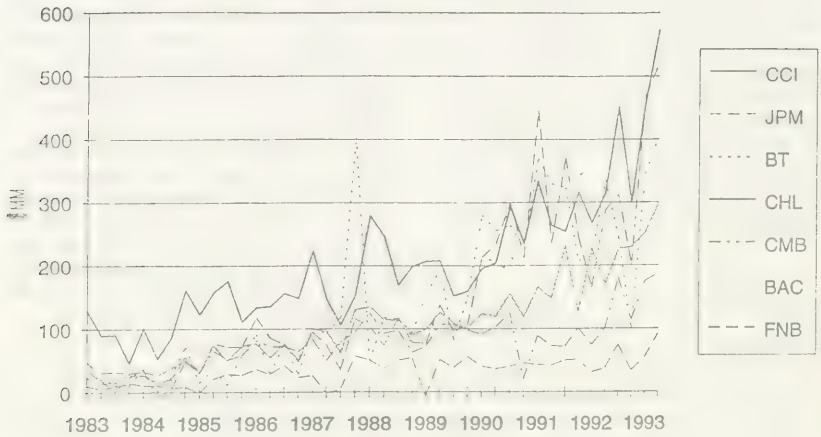
The combined trading revenues for these seven (once nine) banking companies has been plotted on page 2. A least-squares best-fit regression line has been drawn through both the full ten and a half years' of data and the last five and a half years' of data. The slope of our ten-year regression line (R-squared of 0.82) indicates growth of $145 million in combined quarterly trading revenues per year.

A number of factors have driven the growth in trading revenues. Perhaps the most significant has been the development of the derivatives market. The first interest-rate swap was entered into in 1981. By the end of 1991, the notional amount of interest-rate and foreign-exchange derivative instruments outstanding had grown to $4.5 trillion. The growth of the derivatives market reflects the increased acceptance by investors and issuers of derivative products as a cost-effective tool to enhance yields, reduce funding costs, and manage risk. Innovation -- both in terms of computer and communications technology and on the part of academics and bankers in developing sophisticated methods to assess and price risk -- has played a key role as well. At the same time, the growth of securitization and the opening up of economies around the world have increased the variety of tradeable instruments. In response, bankers have dedicated increased amounts of personnel and capital to develop global trading networks and comprehensive risk-management systems.

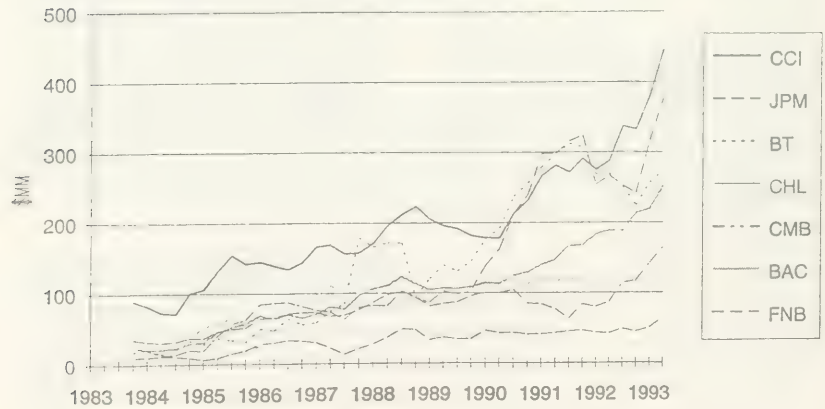
Observation: **The pace of growth has increased in the last five years.** The five-year regression line (R squared of 0.66) is steeper than the 10-year line. That five-year regression line indicates growth in combined quarterly trading revenues of $207 million per year. This observation could simply be an artifact of the data, reflecting unusually depressed results in the 1988-89 period and the outsized trading profits in 1993's first half; certainly the fit of the line to the actual trading results is not as strong for the five-year regression as it is for the ten-year. Nevertheless, we think it reflects a real acceleration in the trading business. The universe of derivatives-market users has continued to grow, while U.S. money-center banks' dedication to the business has increased. In particular, this period coincides with the lift-off of J P Morgan's and Bankers Trust's trading businesses.

Observation: **First half 1993 trading results were exceptionally strong.** There's no denying that first half 1993 results were outsized by any measure. Combined trading results for these seven money-center banks were $1.9 billion in the first quarter and more than $2.2 billion in the second. The five-year regression line indicates "normal" trading profits would have been $1.6

MONEY-CENTER BANKS' TRADING REVENUES



MONEY-CENTER BANKS' TRADING REVENUES
FOUR-QUARTER MOVING AVERAGE



billion and $1.7 billion, so "excess" trading revenues of $0.8 billion were earned in the first half. Declines in interest rates worldwide, European currency volatility, and price appreciation of LDC debt were among the factors cited by the money-center banks for their strong first half trading results, but most banks also cited continued growth in their customer-driven derivatives businesses as well. Turmoil in European currency markets has continued into the third quarter, so it is entirely possible that strong trading profits will be earned again in the third quarter. That said, it would be reasonable to expect trading revenues to decline later in 1993 and in 1994 from the levels achieved in 1993's first half.

Observation: **Trading volatility is not as great as might be thought.** The relatively high R-squared statistics for both the ten-year (0.82) and five-year (0.66) regression lines indicate a consistency to the trading business -- at least when seven banks' results are aggregated -- that many investors might not expect. Not surprisingly, most individual banks' trading revenues exhibit greater volatility than do the combined trading revenues for the seven banks -- something discussed in more detail on page 9. While we don't pretend that an R-squared statistic of 0.66 indicates trading results are growing at a precise linear rate over time, we do think the variability of trading results should be put in the context of the other ways banks make money.

The most important revenue item for most banks is net interest income, and, it is true, the quarter-to-quarter variability of net interest income is relatively small. Changes in earning asset volumes and interest-spread relationships are relatively glacial. However, the majority of most banks' earning assets are loans, and significant volatility in the spread-banking business does show up in the loan loss provision. The difference between net interest income and the loan loss provision could be called "risk-adjusted net interest income," and risk-adjusted net interest income does exhibit considerable volatility from quarter to quarter.

On page 2, we've plotted combined quarterly net interest income, risk-adjusted net interest income, and trading revenues for these seven money-center banks for the last ten and a half years. It should be fairly evident that risk-adjusted net interest income has demonstrated a fair amount of volatility of its own. The standard deviation of quarterly risk-adjusted net interest income over the period 1988-1993 was almost $1.6 billion, 39% of the average level of quarterly risk-adjusted net interest income of just under $4 billion. In contrast, the standard deviation of the residuals from our five-year regression of combined quarterly trading revenues was $243mm, 21% of the average level of quarterly trading revenues over the period of $1.1 billion. Arguably, trading revenues have been *less* volatile than risk-adjusted net interest income.

Now the money-center banks may be viewed as having been particularly accident prone in the 1980s, so this comparison could be considered unfair. Certainly the LDC provisions in 1987 and 1989 loom large on our chart of risk-adjusted net interest income. Still, we don't think any reasonably fair sampling of regional banks would have generated a significantly less volatile series of risk-adjusted net interest income figures considering the unprecedented number of bank failures in the last decade.

Market risk from trading activities has contributed less volatility to bottom-line earnings than has *credit risk* from lending activities.

Observation: **Trading is consistently profitable.** This is a point closely related to the volatility of trading revenues. On page 4, we've plotted the actual quarterly trading revenues for these seven money-center banks. While it's a little hard to read this chart -- quarterly trading results for individual banks do bounce around -- a

TRADING AND FOREIGN EXCHANGE REVENUES FULL YEAR 1992

		$mm	Pct of Top 10
1	Citicorp	1,331	25%
2	J P Morgan	959	18%
3	Bankers Trust	896	17%
4	Chemical Banking	853	16%
5	Chase Manhattan	468	9%
6	BankAmerica	463	9%
7	First Chicago	177	3%
8	Republic New York	115	2%
9	Bank of New York	94	2%
10	NationsBank	71	1%

TRADING AND FOREIGN EXCHANGE REVENUES SECOND QUARTER 1993

		$mm	Pct of Top 10
1	Citicorp	572	24%
2	J P Morgan	520	22%
3	Bankers Trust	405	17%
4	Chemical Banking	298	13%
5	Chase Manhattan	187	8%
6	BankAmerica	172	7%
7	First Chicago	92	4%
8	Republic New York	54	2%
9	Continental Bank	27	1%
10	Bank of New York	23	1%

significant fact should be noted: The major trading banks hardly ever lose money from trading activities. Plotted here are trading results for seven money-center banks over ten and a half years -- 294 separate quarterly reports (or 366 if the data for Manufacturers Hanover and Security Pacific are disaggregated). In only four of those reports did a bank post a trading loss for the quarter, and each of those losses was minor. Three were posted by First Chicago, the smallest of these seven trading banks; the other was posted by J P Morgan in 1984, almost ten years ago.

Certainly these banks lose money on individual trades. And certainly whole trading-product areas can generate quarterly losses. J P Morgan lost hundreds of millions of dollars in its mortgage-backed securities trading over several quarters in 1992. But these banks' trading operations are sufficiently diversified that losses in one area are almost always offset by profits in others. Unlike a traditional securities broker/dealer, whose trading would be dominated by U.S. equities and bonds, these commercial banks trade a vast array of different products, including: interest-rate and currency swaps, U.S. and foreign government debt instruments, money-market securities, corporate debt securities, LDC loans and bonds, foreign currencies, equities, and other instruments. Those trading activities which are dominated by customer-driven transactions (e.g., Citicorp's foreign exchange business) would be expected to be consistently substantially profitable.

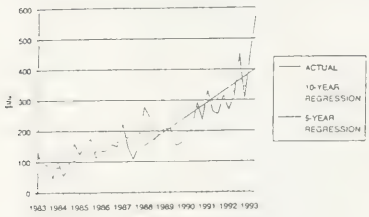
Observation: **Among U.S. banks, the trading business is highly concentrated.** This can be seen most clearly in the tables on page 6 showing market share of trading revenues among the top ten U.S. commercial banks. The largest four players accounted for three-quarters of the trading revenues earned by the top ten trading banks in 1992, and the tenth-ranked bank earned only 5% of that earned by the top-ranked bank. Virtually the same characterization could be applied to trading results in 1993's second quarter. Since investors have identified J P Morgan and Bankers Trust most closely with trading and the derivatives business, it may come as a surprise that Citicorp's trading revenues are larger than either of those two's. Citicorp's preeminence in part reflects its dominance in foreign exchange, itself a function of the company's long-standing overseas presence. Chase Manhattan, BankAmerica, and First Chicago are clearly in the second tier, reflecting in some cases different management emphasis (BankAmerica) and in others simply belated development (Chase Manhattan).

On page 4, we've plotted a four-quarter moving average of the seven major trading banks' quarterly trading results. With some of the quarter-to-quarter volatility smoothed out, changes in market position can be seen clearly. Citicorp's long-standing dominance is clear as are the surges in J P Morgan's and Bankers Trust's trading revenues in the early 1990s. Also evident is Chemical Banking's move over the last three years from the second tier towards the first.

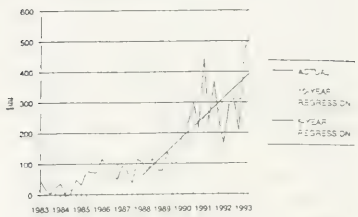
Observation: **Trading volatility varies significantly among different banks.** Those banks whose trading results are less volatile are most likely less involved in proprietary position-taking than in customer-driven activities. Less volatile results may also indicate a broader range of instruments traded. Stability of trading revenues over time also suggests that sophisticated risk-management processes are in place and are being followed.

On page 8, we have plotted actual quarterly trading results, a ten-year regression line, and a five-year regression line for each of these seven banks. R-squared statistics for the ten- and five-year regressions are shown below. Of these seven banks, Chemical Banking has had the most stable trading performance; its regression lines actually have higher R-squared statistics than do those for the combined group. All these

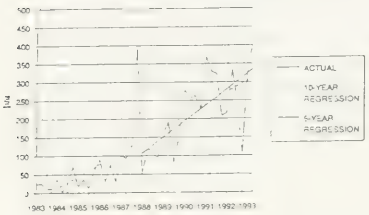
CITICORP TRADING REVENUES



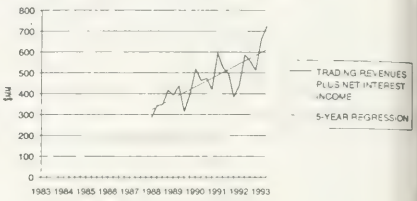
J P MORGAN TRADING REVENUES



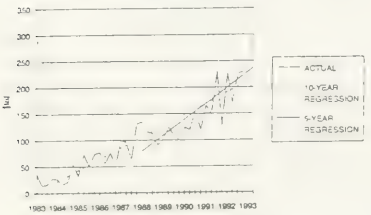
BANKERS TRUST TRADING REVENUES



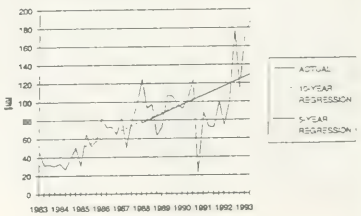
BANKERS TRUST
TRADING REVENUES PLUS NET INTEREST INCOME



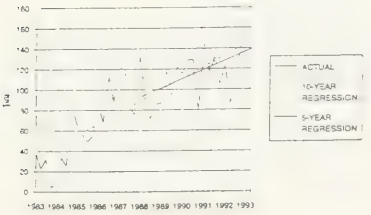
CHEMICAL BANKING TRADING REVENUES



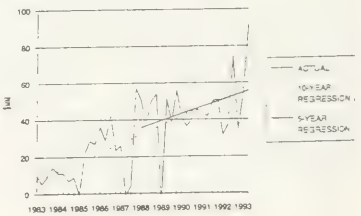
CHASE MANHATTAN TRADING REVENUES



BANKAMERICA TRADING REVENUES



FIRST CHICAGO TRADING REVENUES



regression lines meet statistical tests of significance (i.e., there is a real track record of growing trading revenues over time) with the exception of the five-year regressions for Chase Manhattan and First Chicago. The five-year regression for BankAmerica is also not statistically strong.

R-SQUARED STATISTICS	10-Year	5-Year
Chemical Banking	0.84	0.69
J P Morgan	0.69	0.60
Citicorp	0.69	0.54
BankAmerica	0.68	0.28
Bankers Trust	0.65	0.47
Chase Manhattan	0.55	0.17
First Chicago	0.50	0.12
Combined	0.82	0.66

Bankers Trust's five-year regression R-squared is much stronger (0.64) if net interest income is taken into account. Since two-thirds of Bankers' balance sheet is made up of trading-related assets, and the company does engage in trading strategies whose benefits show up as net interest income rather than as trading revenues, this adjustment seems entirely reasonable.

There is a rough correlation between the size and stability of a bank's trading revenues. This is logical since the broader a bank's trading franchise -- by customer, product, and geography -- the more often weak results in one area will be balanced out by strong results elsewhere. At the same time, only the largest players are capable of successfully trading a broad set of products with a large number of customers.

Conclusions for Investors: Bank stocks typically trade at a price/earnings multiple discount to the general stock market, reflecting either investors' belief that banks' growth prospects are less bright than other companies' or investors' concern that banks are riskier than other companies. That risk in most cases would be credit risk.

The trading banks' stocks typically trade at a price/earnings multiple discount to the average bank stock, implying that as much concern as investors have about growth or risk for most banks, they have more concern for the trading banks. While it is difficult to disaggregate investors' views about trading from other aspects of bank performance, to the extent this is true, we believe it represents a misunderstanding of the major trading banks' business.

The rapid growth in trading revenues over the last several years is likely to continue (though we're reluctant to use first half 1993 results as a baseline for that growth). The factors which have spurred growth in trading revenues over the last decade -- the growth of the derivatives market and an increase in the range of tradeable instruments, coupled with banks' increased commitment to the business -- are likely to lead to further growth in the next decade. While investors are correct to discount earnings derived from trading activities for volatility, allowance should also be made for the rapid growth that trading revenues have had and are likely to experience.

It should be kept in mind that trading losses have never led to a bottom-line loss for any of the major trading banks. The same cannot be said about credit losses.

Finally, investors should distinguish those banks' whose trading results are comparatively stable over the long term; such banks deserve higher valuations.

David S. Berry
Director of Research

CAPITAL IDEAS

$235,031,250
Mellon Bank Corporation
Common Stock
January 19, 1993

$62,500,000
ANCHOR Savings Bank
Common Stock
July 2, 1993

$54,337,500
American Federal Bank, FSB
Common Stock
March 12, 1993

$10,010,000
NORTH FORK BANCORP
Common Stock
March 3, 1993

$199,000,000
DIME.
The Dime Savings Bank of New York, FSB
A Rights Offering of 33,180,614 common shares was successfully completed
May 20, 1993

$30,368,373
Gateway
Rights Offering of 5,784,452 shares of Common Stock
June 29, 1993

$125,000,000
Bank of Hawaii
6⅛% Subordinated Notes Due 2003
May 28, 1993

$55,000,000
Liberty National Bank and Trust Company of Louisville
6¼% Subordinated Notes Due 2003
May 19, 1993

$100,000,000
Continental Bank, National Association
7⅞% Subordinated Notes Due February 1, 2003
January 21, 1993

$75,000,000
The Provident Bank
7⅛% Subordinated Notes Due 2003
March 9, 1993

$100,000,000
Integra Financial Corporation
6⅛% Subordinated Notes Due April 15, 2000
April 12, 1993

$17,250,000
REPUBLIC BANCORP
9% Subordinated Notes Due 2003
January 15, 1993

$600,000,000
Central Fidelity Bank
Bank Notes Due from 30 Days to 30 Years from Date of Issue
February 8, 1993

$250,000,000
The Provident Bank
Medium-Term Bank Notes Due from 9 Months to 15 Years from Date of Issue
May 5, 1993

$200,000,000
Mellon Financial Company
6½% Senior Notes Due 1997
January 21, 1993

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U.S. HOUSE OF REPRESENTATIVES

COMMITTEE ON BANKING, FINANCE AND URBAN AFFAIRS

ONE HUNDRED THIRD CONGRESS

2129 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-6050

October 6, 1993

Mr. Clifford Griep
Executive Managing Director
Standard and Poor's Ratings Group
25 Broadway, 22nd Floor
New York, NY 10004

Dear Mr. Griep:

On October 28, 1993 at 10:00 a.m. the Committee on Banking, Finance and Urban Affairs will hold a hearing on the safety and soundness issues associated with bank derivatives activities. You are invited to testify at this hearing.

So that the Committee can better understand the risks associated with bank derivative activities, please prepare written remarks that address the following issues.

1. How has the increased derivative activity of financial institutions affected their financial condition? their credit rating?

2. Please describe how the derivative activity of financial institutions has changed in the past ten years. How important has profits from derivative activity become to financial institutions?

3. Is the financial reporting of bank derivative activities adequate? What additional information should be disclosed?

4. How would marking-to-market of bank's derivative products affect bank financial conditions?

5. Are capital standards adequate to take into account all types of risk, including credit and market risk, for banks that engage in selling derivative products?

6. In evaluating a bank's derivative activities, is it possible to distinguish between speculative and non-speculative activities?

7. In light of Standard & Poor's decision not to develop new ratings to cover hybrid derivative products, please discuss

the difficulties in placing a value on these products.

Please feel free to address any other issues that will shed light on your organization's efforts to monitor and value derivative products.

You will be given approximately five minutes to summarize your written remarks for the Committee. Banking Committee rules require that two hundred copies of your written testimony be delivered to Room 2129, Rayburn House Office Building, Washington, D.C. 20515 no later than the close of business October 26, 1993.

Thank you for your cooperation. The Committee looks forward to your testimony.

Sincerely,

Henry B. Gonzalez
Chairman

HBG:mpc

STATEMENT OF
CLIFFORD M. GRIEP
EXECUTIVE MANAGING DIRECTOR
STANDARD & POOR'S RATINGS GROUP
before the

COMMITTEE ON BANKING, FINANCE & URBAN AFFAIRS
U.S. House of Representatives

October 28, 1993

Mr. Chairman and Members of the Committee, I am Clifford Griep, Executive Managing Director at Standard & Poor's Ratings Group and head of the financial institutions department. I am happy to be here at the request of the Committee to discuss the implications of derivatives on the creditworthiness of U.S. banks.

This is an area of considerable interest to S&P, and to the credit community generally. Our focus in this area has been concentrated primarily on those banks and brokers that have established or are in the process of establishing a dealer capability in derivatives. These firms generally serve as intermediaries in risk management instruments. As a consequence, they tend to have significant market making and trading activity in derivatives, and maintain sizeable derivative exposures.

In the course of its ratings activities, S&P has reviewed and studied the derivative market as it has evolved. Consequently, we have concluded that derivatives are a useful tool in supporting risk management. In existence for many years, derivatives clearly add a component of risk, but S&P believes that the incremental risk can be managed effectively and is not inconsistent with high ratings. However, some institutions, financial and corporate, may be more adept and knowledgeable at managing derivative risk than their counterparts.

To the degree that the derivative business must inherently carry greater risk, S&P supports greater disclosure and regulatory oversight as necessary and beneficial. Under current regulatory and SEC financial disclosure requirements, these businesses are somewhat opaque. They permit observers to gauge general levels of activity, and the general risk profiles of derivative activities. However, in meeting existing disclosure requirement, as describer later in my testimony, few dealers have provided sufficient distinctions to gauge relative risk by product. S&P believes there is some danger here for major dealers, in that given their required access to funding and capital markets, need to shed any mysteries which might be negatively viewed in times of economic stress.

In reviewing the brokers and banks with an active derivative business, S&P finds that, at present, this is a fairly concentrated group. Combined, these institutions represent a material share of the over the counter derivatives activity. The majority of my comments reflect our observations on these companies. Secondarily, but also important, we have focused increased attention on banks, along with all rated entities, as end users of derivatives. The use of derivative instruments in some aspect of risk management is increasingly common, and therefore the management of the use of these instruments is becoming increasingly important as a component of creditworthiness. Generally, derivatives are used by these banks in tactical portfolio management, asset liability management or to control interest rate sensitivity. There is a wide disparity in tactics and some differences in risk appetite reflected in the use of derivatives by this group.

S&P believes that the rapid growth of the over the counter derivatives market has added to systemic risk in the U.S. and global banking system. The creditworthiness of the major dealers in this market has become increasingly important as the industry's exposure to these firms has increased. However, systemic risk is not specific to derivatives. That is, the banking industry's shared exposure to some dimension of market risk or the heightened vulnerability the payment system or financial sector has to counterparty failure does not arise solely from derivatives. Derivatives are one of several interbank exposures which heighten this risk. Systemic risk is, to a large extent, unavoidable. It is a consequence of an increasingly concentrated system of financial intermediation and the increasing integration of financial markets. In such a system the credit of the key players becomes more important. The fact that derivatives renews the focus of managements and regulators on systemic risk is positive. Moreover, we view the management of systemic risk as a cooperative effort, with regulatory and government policy being central to the task.

S&P has not, to date, lowered the ratings of any major U.S. banks as a result of these banks conducting a derivative dealer operation. While these activities have altered and heightened the risk profile of these institutions, the risks have been mitigated by strengthening capital, improved earnings and profitability, enhanced market position in a consolidating industry and a declining risk profile in other operations, notably lending.

Our review of the derivatives operations at the major institutions concluded that the company specific risks of operating a derivatives dealing operation are largely measurable and manageable, provided sufficient management caution and control are exercised. Caution is in order, because derivatives are evolving too fast for us to have complete confidence that everyone fully understands how these instruments will behave in all market conditions. Control is necessary, because the risk management systems needed to monitor and measure derivatives exposure require close management scrutiny.

The strengths of these operations at the large dealer banks include the strategic fit with their existing business mix, the relatively strong profit margins in derivative operations, the geographic, product, and market diversity in the revenue base achieved by the largest firms, the reasonably tight credit standards that have been maintained thus far, and improving risk management capability. These are somewhat offset by some current weakness in risk measurement systems, lack of standardized accounting and pricing practices, absence of adequate disclosure given the complexity of the business, and rapid growth and complexity making management control more challenging.

Banks and investment banks that have established derivatives dealing capability have profited significantly from the development of the derivatives market. A few dealers derive between 20% to 25% of their earnings from their derivative activities, although current financial reporting makes these determinations difficult. For others the profit contribution is lower, in the range of 5% to 15%.

To date these benefits have accrued to those institutions that have had an early and consistent strategic focus on building a global dealer capability in risk management instruments. Success to date has required strong product development capabilities, excellent risk management and control systems, and consistent, high credit quality. In fact, the firms with this strategic focus and superior risk management discipline have been advantaged in the recent environment. A derivative capability became an increasing strategic necessity to support the growth and global expansion of the lending, underwriting and trading businesses, while being of tactical value in asset liability management, currency risk management and funding. For dealer banks this business has, in part, replaced the more traditional and less profitable intermediation business. For most dealer banks, OTC derivative operations are relatively new. The dramatic growth of the business over the last 10 years has been prompted by the increased need for risk management products among their traditional customer base. This need resulted from the increased exposure of business enterprises to volatility of interest rates, exchange rates, and commodity and equity prices.

For those firms with an established presence the maintenance of a sizable book and dealer capability has created some inventory and information advantages which, in turn, often provide trading advantages. We view the advantages enjoyed by the major firms in this business as sustainable over the intermediate term. However, we expect increasing and material competitive pressure from foreign as well as domestic institutions, and consequently we expect diminished profitability for all participants over the longer term. Profit margins have been narrowing in relatively mature derivative instruments like, interest rate swaps, and tend to narrow generally over the product life cycles. This is a prospectively negative credit factor for these large dealers.

The bulk of the profit for the major bank dealers comes from interest rate and currency swap and option activity, although for major players, the revenue stream is increasingly diversified by product, market and geography. Profits have also come to those able to build a meaningful dealer presence early in the product life cycle when providers and supply of product are limited, the value added is unique, and the market is pricing inefficiently. Earnings quality varies considerably from firm to firm as accounting policies, pricing, reserve or holdbacks, and mark to market capability and control all vary, as does the proportion of customer versus speculative earnings.

As a general matter, it is difficult to distinguish between speculative and non speculative activities. It is impossible from public disclosure, and difficult even in the confidential dialogues we hold with managements. Analytically, we attempt to distinguish proprietary trading activity, or those securities or derivative positions held speculatively on behalf of the bank, and the profits and losses thereof, from customer driven activity, in which a position is held in a routine fulfillment of customer need. Both activities entail risk. Analytically, S&P regards the earnings from proprietary activities to be of lower quality than earnings from customer driven activities. This reflects the relative volatility of proprietary trading results. As a general matter, most of the current earnings are driven by customer activity, although proprietary trading activity for this set of dealer companies has increased.

Earnings from derivative dealing activities are largely diversified and largely customer driven. Earnings from proprietary trading activities have been, and are expected to be more volatile. Attempts shown to us by various dealers to break out the earnings from derivatives indicate that those earnings are stable and are more driven by the volume of business than by positioning the book to profit from rate changes in the markets. This speaks to the fact that the derivative dealing team is not charged with making trading gains but rather intends to run the portfolio more or less matched, or hedged. Any mismatches may be inadvertent or temporary. Trading gains may be made, however, elsewhere in the firm using derivatives. Derivatives in that case represent only additional choices in an array of instruments traders may select to take their desired positions.

S&P has similarly not lowered the ratings of any banks solely, or primarily as a result of their use of derivatives in portfolio or asset liability management. S&P views derivatives as one of several means by which a management can alter the risk profile of its institution, specifically in changing its sensitivity to movements in interest rates. Derivatives, particularly interest rate swaps, and other interest rate products, such as caps, collars, floors, and some futures and options are used in this regard, and that usage is increasingly common. Importantly, the use of these instruments can either reduce or

increase the risk of the institution, dependent upon intent and the capability of management. Importantly, the risk management capability of end users varies significantly. The complicated and volatile nature of some derivative instruments increase the probability that a less sophisticated or less capable management may use derivatives in a way that materially heightens the risk profile of their bank. Avoidance of these potential problems will depend upon adequate reporting and examination procedures. It should be noted that the recent and current yield curve environment has afforded bank managements the opportunity to position their institutions interest rate sensitivity more aggressively. Aggressive or more speculative position taking, or the absence of adequate risk measurement or management capabilities, both of which could expose depositors and bondholders to increased risks, generally result in lower ratings.

Let me now briefly cover the risks inherent in this business, and how risks are being managed, and S&P's concerns.

First, these businesses are complicated and fairly opaque. Current bank regulatory and SEC financial disclosure requirements are not sufficient to fully or precisely convey the risk profiles of derivative trading activities. They are sufficient to gauge general activity level, and the general risk profile of derivatives activities. Current bank regulatory disclosure requires quarterly reporting on notional or contract amounts on a variety of interest rate, foreign exchange, and commodity contracts, and some replacement cost, maturity, and counterparty credit quality information. While current bank regulatory disclosure requirements exceed SEC requirements, the replacement cost, maturity, and counterparty information only broadly differentiates interest rate from foreign exchange products. FASB 105 requires on an annual basis, disclosure of both a contract/notional amount and an associated credit risk amount determined either by the replacement value of contracts in a given position, in the case of interest rate, foreign exchange, and other contracts; or the actual contract amount, in the case of forward or written put option contracts on debt securities. This is constructive, and S&P concurs that the replacement value, which is generally a small fraction of the notional amount, is a more accurate measure of risk then the notional amounts of derivative contracts. However, in meeting this disclosure requirement, few dealer institutions have provided sufficient product distinctions to gauge relative risk by product.

We think that there is some danger in this for major dealers who, given their required access to the funding and capital markets, need to shed any mysteries which might be negatively interpreted in times of economic stress or severe market disruption, such as the of stock market crash. Therefore operating a substantial derivatives book, without the work associated with disclosure, materially heightens liquidity risks for individual institutions.

There are no standard or uniform methodologies for reporting income derived from derivative activities. In general, income recognition varies depending upon valuation methodologies used. These are described in the attached article. Some methodologies defer a much greater portion of income into the future than others by creating substantial holdbacks or reserves. Such differences render comparisons of income statements and balance sheets of these business lines among dealers very difficult.

Marking derivative exposures to market would not affect the banks financial condition, or its creditworthiness. Major U.S. dealers use mark to market rather than accrual accounting. But it is important to note that public quotes do not exist for some types of derivative contracts, particularly the esoteric ones. In some cases, prices can be derived from publicly quoted swap curves. In others, valuation methodologies or formulas are applied. There is no standardization of valuation methodologies. Consequently, computed prices can vary greatly depending upon the assumptions used. This could result in some contracts being mispriced and subject to revaluation. While normally a mark to market provides meaningful discipline and reliable disclosure, the arcane nature of derivatives, wide bid-ask spreads, in some instances shallow and illiquid markets, the uncertainty related to complex hedging and rebalancing requirements, and the discretion afforded by probability and volatility based valuation, causes us to retain some skepticism in this area.

Based on our dialogues with managements and our own efforts to collect information on these exposures we recognize the material challenges confronting the financial services industry in areas of both disclosure and the development of supporting internal management information systems. However, S&P believes that greater product distinction of both notional, and especially, replacement value amounts, as well as a greater differentiation by maturity, would benefit the credit communities understanding of the risk profile of these operations. Similarly, we believe that greater disclosure could be achieved through increased standardization of market valuation accounting, holdback or reserve, and income recognition practices, and greater product or business line revenue disclosure. We are encouraged by the increased attention this issue is getting from major bank dealers.

Within the banks, risk is measured and managed through fairly complex, and sophisticated risk management systems. These risk models need to work effectively in order for companies to correctly price credit and market risk, and correctly allocate capital. Therefore the assumptions on which they are based must be sound, and frequently reevaluated.

On the whole, the systems we have reviewed at major participants do an adequate job defining, measuring, and tracking risk. It should be noted that the significant dealer operations are conducted by a relatively small number of firms with relatively strong risk management capabilities. There are some differences in risk management capability

among bank dealers and material differences in these capabilities among all firms engaged in derivative activities. Given the volatile nature of these businesses, S&P believes that the relatively infrequent occurrence of material problems generally reflects positively on industry participants risk management capabilities. However, these systems do evidence ongoing measurement and control problems endemic of a complex and rapidly growing business. Also S&P fully expects that dealer institutions may occasionally have credit and trading losses related to derivatives. We expect these losses to be of manageable proportions within the context of the firms overall risk profile and ratings.

Credit risk for derivatives entails two components, the probability of counterparty default, and the market value or replacement cost of the defaulted contract at the time of default. Therefore, credit risk or exposure varies not only with the credit characteristics of the counterparty book, but with the value of contracts. That value fluctuates in response to the volatility of underlying market factors depending upon the type of derivative contract. This makes potential exposure difficult to measure, and has universally heightened awareness of, sensitivity to, and management of counterparty risk.

Overall, the business has shifted materially from exchange traded to over the counter contracts, increasing credit exposure for all participants and increasing exposure among or between the major dealers. S&P believes that exchanges or their corresponding clearinghouses, although they are not rated and may have substantively different risk profiles, are generally higher quality and more stable credits than private institutions. Other then exposures to clearing corporations and exchanges, we have not seen concentrations of exposure in the derivative books that exceed the amounts in the interbank deposit or lending portfolios. Moreover, to the extent the growth of these businesses creates concentrations in counterparty exposure this risk can be mitigated by netting, collateral, or margining agreements. Therefore legal and regulatory recognition and support for these arrangements is essential. Overall, a reasonably high level of credit quality has been maintained. Counterparties are predominantly investment grade, with only modest speculative grade exposure. Consequently counterparty defaults, while increasing, have been minimal to date. The legal uncertainties regarding the enforceability of contracts has also heightened and complicated questions of counterparty default exposure, and has motivated a greater scrutiny of enforceability of derivative contracts against several types of end users.

The tenor or maturity structure of the exposure varies by product, but in total, the derivatives book has tended to be relatively short with average 2 to 4 year maturity, or 2 years or less if forwards are included, and this has also tended to moderate credit exposure. Longer maturity derivative contracts such as interest rate, and to a lesser extent currency swaps, have been mostly high quality counterparties. S&P estimates that, in a normal operating environment the cumulative default rate of a bank dealers derivative

counterparty book, based on current credit quality and maturity structure, is approximately 1%. This is well below the expected cumulative default rate of the traditional loan book. However, S&P also expects that some dealers will extend downmarket for business, and extend the maturity structure of the book. Both will increase risk.

Determining potential exposure due to defaults is more problematic, but dealers risk measurement systems are generally improving in this area. While a dealer's probable loss is limited to the replacement value of a defaulted contract, the replacement value changes. Dealers typically model the potential increase in value of derivatives contracts, and hence exposure, based on the historical volatility of underlying interest, currency, or commodity rates. For most institutions the maximum exposure has been based on a index or rate movement, consistent with but not greater than the historical experience over a relatively short time period. There is variability in assumptions and statistical technique and S&P reviews and compares these assumptions from firm to firm. In most firms, exposure measurement has captured a normal operating environment, stressed only to historical levels of volatility. Such exposure measurement systems are therefore useful in defining risk in most operating environments. However, most exposure measurement does not capture a sudden, or sharp derivation from historical occurrences. Also to the extent that modeling is intended to measure value, and hence exposure, only some systems adjust value for market liquidity considerations.

In determining broader or firm exposure limits, most dealers cite a portfolio effect and some recognize it in their risk models. The portfolio effect relies on the negative correlation between underlying rates or indices on which the value of derivative products are based. Dealers have varying abilities to simulate this portfolio effect, but due to the compounding of the assumptions required to calculate the effects, accuracy is questionable. S&P tends to focus on potential exposure independent of portfolio effects.

While the risk management models of major dealers are useful, they are often not fully integrated into the operations. That is, they are used as a control tool rather than a line management tool. Therefore, they capture risk after the transaction, not before. Consequently, they are not controlling pricing decisions.

Second, the risk models may be isolated, applicable to a single product, or business unit, but not well integrated. Such systems will not be effective in aggregating exposure firm wide.

The long term and volatile nature of these exposures heightens the importance of accounting and operations control in these businesses. Moreover, given the heightened importance of control, control weaknesses will become much more meaningful credit criteria in the future. This comes at a time when it is already increasingly difficult for

some of these firms to convey the basis of their credit strength to the markets due to the complexity of their operation.

S&P regards regulatory effort to capture credit and market related derivative risk in bank capital requirements as ongoing. S&P regards the current regulatory requirements and initiatives as constructive and broadly applicable. The level of required capital as suggested by regulation currently in place is fairly close to our own estimates of capital for a bank dealer of average credit quality. As described in the attached exhibits, S&P has estimated the capital needs resulting from derivatives dealing operation by a methodology which stresses counterparty default probabilities and contract replacement values. The capital need suggested by this is roughly approximate to the Basel requirements. The proposed market risk capital requirements will add somewhat to levels of protection already required, but we have not, to date, estimated the increase. Generally, S&P supports regulatory effort to capture market risk in its capital requirements.

As I mentioned earlier, we believe that the internal capital allocation to these businesses by most dealers is relatively low given the potential for market disruptions, and the measurement and management challenges. For most institutions, the perception of risk and measurement of capital need has been somewhat below Basel requirements or our own assessment.

S&P has commented that the regulatory risk adjusted capital guidelines are necessarily and appropriately broad, because they cover all, or most, banks. Because they are broad they may not capture differences in risk profiles of individual institutions. Measurement of derivative exposure or replacement cost are similarly general in that they do not reflect the individual credit characteristics of a banks counterparty book, nor do they stress exposure to even a historically worst case stress level of replacement value.

In conclusion, I'd like to reiterate S&P's major observations to date on the issues related to banks involvement in the derivatives markets. First, the growth of the overall derivatives market has been beneficial. These instruments, while they can be used speculatively, have been primarily used to manage risk in financial markets. Second, a small number of major U.S. banks are dominant players in the over the counter derivatives market. Their derivative operations are consistent with the strategic purpose of a bank or broker, that is, the intermediation of risk. Most derivative related exposure and profit at these dealer banks is customer driven, although all use derivatives in proprietary trading activities as well. Third, the risks of derivative activities at dealer banks are significant, and there are certainly challenges related to managing, monitoring, and disclosing those risks. But S&P believes those risks are not disproportionate to other banking risks and can be effectively managed, provided appropriate caution and control are exercised. Therefore, a derivatives dealing operation and a moderate level of proprietary trading activity are not inconsistent with high ratings or strong creditworthiness. While derivatives operations at

major dealers has altered and heightened the risk profile of these institutions, the risk has been mitigated to date by strengthening capital, improved earnings and profitability, enhanced market position in a consolidating industry, and a declining risk profile in other operations, notably lending. At present, derivatives operations are very profitable, while we expect increasing competition to put pressure on profit margins, we believe firms with established operations have advantages which are sustainable in the intermediate term. We have not lowered ratings on any bank derivative dealer as a result of derivative operations. However, an erosion of counterparty credit quality resulting from competitively driven tiering downmarket, a material shift to proprietary or speculative trading activity from customer driven business, a more dramatic erosion of profit margins then we currently anticipate would be negative credit factors.

Fourth, the risk management systems of the major dealers show steady improvement over the longer term and largely capture the risks of dealing in derivative instruments. However, the pace of innovation and market growth is straining management information and risk management systems. The amount of management focus in these areas is positive and appropriate.

Fifth, banks also participate in the derivatives markets as end users largely in asset liability management, or managing the banks exposure to changes in interest rates. S&P views derivatives as one of several tactical means by which a management can control the banks risk profile. While end users vary broadly in terms of their risk appetites and their capability to manage risks, we have not seen overly speculative, or undisciplined, use of derivatives by rated banks. Instead, have found their use to be largely prudent and often, beneficial. However, S&P regards the use of derivatives as an increasingly important component of its risk analysis for all banks and clearly less capable managements may engage in risky derivatives activities, jeopardizing the creditworthiness of their institutions.

Sixth, S&P believes that current bank regulatory and SEC disclosure requirements are limited, and are not sufficient to fully or precisely convey the risk profiles of derivative activities to users of public disclosure documents. Moreover, S&P believes the limited disclosure heightens liquidity risk for bank and other derivative dealers, in times of stress of market disruptions. We regard the accounting and financial services communities sensitivity to analysts needs in this complicated area as positive. Disclosure of replacement value, and mark to market discipline are constructive, but S&P believes that market understanding will improve with greater standardization of valuation and related income statement reporting and greater voluntary disclosure efforts by management. Proposed changes in financial reporting i.e. new reporting as required by FASB interpretation 39 to FASB 105, will have no impact on the creditworthiness, or ratings of banking institutions. It will tend to increase the size of the balance sheet, but the risks of the activities causing this increase have already been discounted from a credit perspective.

Finally, derivative activities of banks are resulting in increasing capital requirements for those banks, both under existing capital requirements for capturing derivative related credit risk, and proposed capital requirements for derivative related market risks. S&P's estimates of capital need to support derivative dealing operations, which are described in the exhibits, are roughly approximate to those required by current regulation in place. S&P generally supports the regulatory effort to capture market risks in its capital requirements but believes that there are significant practical difficulties in implementing broad and meaningful risk measures in this area. S&P strongly endorses the use of a mark to market discipline as a means of heightening industry sensitivity to market risks.

STANDARD & POOR'S
CREDITWEEK
REPRINT

BANKS FACE MANAGEABLE RISKS IN DERIVATIVE BUSINESSES

U.S. money-center banks have profited immensely from the development of the derivatives business—forwards, swaps, options, futures—over the last decade. As major market makers or dealers, banks now derive a substantial amount of their earnings from the business—most welcome as a replacement for the net interest income from investment-grade loans of bygone years. Those earnings have grown rapidly, paralleling the growth of the derivatives market, which has been nothing short of explosive. But given that derivative instruments are new, that they have not been tested through a wide variety of stress scenarios, and given that they can be very complicated in nature, is there a potential that some unforeseen danger lurks that could lead to a disaster as spectacular as the growth that fed it?

Derivative exposure

	Total notional Amt (Bil. $)	Total market Value (Bil. $)
Citicorp	1,426	23.5
Chemical Banking Corp.	1,296	19.4
J.P. Morgan & Co.	1,014	20.0
Bankers Trust NY	958	21.6
Chase Manhattan	837	16.7
Bank America	795	18.4
First Chicago	387	7.2
Continental Banking	136	2.7

After reviewing the major U.S. bank dealers, S&P does not, at this time, anticipate problems of such proportions. While recognizing that such a potential always exists in new businesses, S&P believes that the risks in the derivatives markets, though substantial, are not new. They are the same risks banks have long dealt with in other basic lines of business, such as lending and treasury and trading operations. They appear to be both quantifiable and manageable.

The principal risks in the derivatives business that are within the bank's day-to-day control are familiar:

- Credit risk,
- Market risk,
- Accounting risk, and
- Operating risk.

In addition, there are the broader systemic issues of liquidity risk and legal risk that impact the industry. While the derivative business represents manageable levels of risk, it has become a substantial user of capital for major dealers.

ASSESSING CREDIT RISKS

Credit risk is the risk that a counterparty will default on a contract with a positive market value. On the whole, S&P believes that credit risk is the largest but the most easily managed of the risks. For the derivatives portfolio, evaluating credit risk involves not only assessing the probability of a counterparty default, it presents the additional complication of quantifying a maximum potential exposure to loss.

For a loan, the maximum loss is the amount of the loan. For a derivative contract, in contrast, the maximum loss is not the notional amount of the contract, rather it is the cost of replacing the contract, or its current market value (MV) if it is positive. The MV represents the present value of the stream of remaining net receipts (receipts minus payments) on the contract. On average, in a diversified portfolio, the MV of contracts is a small fraction of the notional amount of the portfolio. The market value is not stable; it fluctuates over time in response to the movement in the underlying rates. For example, for an interest-rate swap involving the exchange of fixed-rate payments for floating-rate payments, the value of the swap increases for the counterparty paying fixed rates when rates rise. At origination, the swap's value would be zero, but over its life it could attain a significant positive or negative value. Thus, market volatility affects credit risk.

As previously mentioned, credit risk exists only for the contracts with positive current mar-

Table 1
Credit exposure relative to notional amounts

	FX & Commod		Interest rate	
	Notional amt (Mil $)	PMV/not (%)	Notional amt (Mil $)	PMV/not (%)
BankAmerica Corp				
1991/4Q	232 967	3 6	225 679	0 8
1992/1Q	283 893	1 2	229 730	0 6
1992/2Q	446 493	2 9	348 682	1 6
Bankers Trust NY Corp				
1991/1Q	422 720	2 9	295 244	1 4
1991/2Q	457 412	2 5	309 141	1 4
1991/3Q	409 779	2 8	359 838	1 5
1991/4Q	368 354	3 8	336 118	2 0
1992/1Q	425 143	2 5	404 572	1 4
1992/2Q	438 209	3 5	520 190	1 2
Chase Manhattan Corp				
1991/1Q	427 200	2 7	338 328	0 9
1991/2Q	419 491	2 6	281 649	1 2
1991/3Q	428 747	2 0	316 251	1 2
1991/4Q	414 853	3 4	320 825	1 6
1992/1Q	494 149	1 2	304 871	1 4
1992/2Q	467 401	2 6	369 233	1 3
*Chemical Banking**				
1991/1Q	434 706	2 0	491 809	0 8
1991/2Q	506 049	2 4	459 019	0 8
1991/3Q	483 500	2 1	527 836	1 1
1991/4Q	548 350	2 6	635 797	1 1
1992/1Q	496 977	1 1	740 424	0 9
1992/2Q	539 470	2 1	756 842	1 1
Citicorp				
1991/1Q	736 171	1 8	427 384	0 9
1991/2Q	693 693	2 6	429 863	0 9
1991/3Q	689 585	2 0	442 804	1 0
1991/4Q	683 146	3 0	443 922	1 3
1992/1Q	767 062	1 4	501 008	1 0
1992/2Q	855 195	2 1	570 894	1 0
Continental Banking				
1991/1Q	43 839	2 7	109 305	0 7
1991/2Q	33 934	2 8	107 769	0 7
1991/3Q	38 183	1 8	119 549	0 9
1991/4Q	31 284	3 1	119 575	1 2
1992/1Q	26 733	1 5	104 121	1 0
1992/2Q	32 160	2 1	104 523	1 2
First Chicago				
1991/1Q	213 242	2 7	122 910	0 7
1991/2Q	194 148	2 3	124 911	0 6
1991/3Q	170 374	1 8	131 086	1 0
1991/4Q	179 500	3 1	128 242	1 3
1992/1Q	205 815	1 4	139 253	1 4
1992/2Q	225 906	2 3	161 758	1 3
J P Morgan & Co				
1991/1Q	333 810	2 9	367 931	1 5
1991/2Q	347 858	2 9	361 426	1 4
1991/3Q	323 191	2 4	427 808	1 5
1991/4Q	337 860	3 5	473 875	1 8
1992/1Q	376 711	2 0	537 950	1 3
1992/2Q	423 592	2 6	590 154	1 6
Security Pacific Corp				
1991 1Q	178 321	2 6	164 044	1 5
1991/2Q	177 667	2 6	163 906	1 4
1991/3Q	195 370	1 9	156 766	2 0
1991/4Q	174 068	3 7	179 298	2 4

*Includes data for Manufacturers Hanover Corp *Source* Federal Reserve Board FRY-9C Report PMV/Not - Positive market value to notional amount

ket values. This positive market value (PMV) is also known as the replacement cost. In the event of a default by a counterparty, the contract would need to be replaced by one with similar cash flows at a cost that is likely to be the same as the market value of the defaulted contract, assuming there is a liquid market for the instrument. Negatively valued contracts (NMV), on the other hand, represent a potential economic gain to the bank if they are abrogated. At any one time, a matched book would consist of contracts whose PMV roughly equal the NMV.

VOLATILITY AFFECTS CREDIT EXPOSURE

Dealers typically model the potential increase in value of derivative contracts by employing statistical methods or simulation techniques to estimate the volatility of the underlying interest, currency or commodity rates, and how the volatility will affect the price of the contracts. These techniques can generate estimates of maximum potential market values (MPMV) for replacement costs. Conservative risk management techniques set limits for exposure to each counterparty based on these estimated MPMVs.

In the estimation of credit risk there exists a kind of "model risk," i.e., there is a great difference in the quality of the risk models. In general, the models and the systems capabilities for tracking credit exposures are in a catch-up mode, and have experienced difficulty keeping up with the growth of the business. In addition, for all of their sophistication, the risk models depend on the historical record of volatility. However, the risk remains that there could be a sudden sharp deviation from historical rates. In addition, if users are not wary, the compounding of assumptions built into the models could lull them with a specious sense of precision. S&P examines the conservatism of estimation assumptions to assess the margin for error built into the models.

S&P believes it is possible to quantify the amount of credit exposure banks assume within reasonable parameters of accuracy. While modeling techniques may tend to underestimate the MPMV of any one contract, S&P takes comfort that there are two countervailing tendencies that can combat underestimating the MPMV—the portfolio effect and the effect of netting.

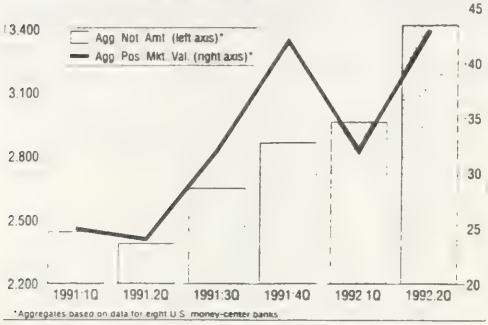
The portfolio effect reduces estimates of the change in MV associated with adverse changes in underlying rates because in very large portfolios there tends to be offsetting changes in instruments that are not perfectly positively correlated. Dealers have varying abilities to estimate this portfolio effect.

NETTING ASSUMPTIONS INFLUENCE MPMVs

Assumptions on the ability to net exposures to any one counterparty can influence the MPMV calculations substantially. In the event of a bankruptcy of a bank's counterparty, the courts could allow netting, or offsetting of positively valued contracts against negatively valued ones to the same counterparty when a "master netting" agreement is in place. Without the ability to net, in a bankruptcy of the bank's counterparty, the assumption would be that the court would "cherry pick" the contracts, i.e., default on con-

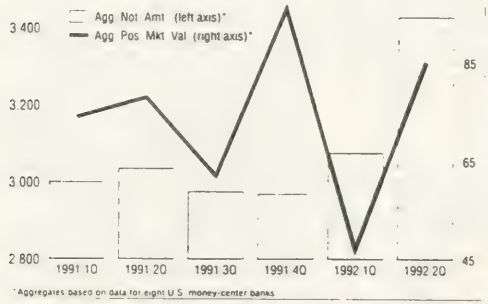
tracts with positive values (to the dealer) while continuing to collect on negatively valued ones. There is, however, an operating risk, or a documentation risk in netting. In the past, not all dealers have been careful to ensure that the master swap agreements are in place for all contracts and for all subsidiaries of parents with agreements.

INTEREST RATE CREDIT RISK (Bil. $)



*Aggregates based on data for eight U.S. money-center banks

CURRENCY CREDIT RISK (Bil. $)



*Aggregates based on data for eight U.S. money-center banks

Legal and statutory support for netting has been building. For example U.S bankruptcy code has accepted netting, which was made statutory in the banking acts of 1989 and 1991, as long as the counterparties are covered by a master swap agreement. For accounting purposes, FASB Interpretation 39 to FAS 107 also allows netting by counterparties covered by a master swap agreement. S&P is fairly comfortable that the U.S. and certain other advanced countries will recognize the agreements, but doubt remains on their enforceability in other countries. The calculations that follow do not incorporate the effect of netting, however, due to the lack of quality data.

CREDIT RISK IS MODERATE

How grave is the credit risk of the derivative business? It is certainly a substantial one. However, it must be emphasized that the credit risk of derivatives is proportionately less than the risk taken in on-balance sheet lending. With derivatives, the credit ratings of the counterparties tend to be solidly investment grade—much higher than the average ratings of borrowing clients. Over its short life span the swaps businesses has suffered very few defaults.

But defaults are beginning to mount in the recessionary environment, with the failure of some major insurance companies and Olympia and York. Nevertheless, the loss experience of the derivatives portfolios should continue to be much less severe than that of the loan portfolios. In general, given the rating and maturity distribution of bank portfolios, the expected cumulative default rate would be about 0.8%.

When quantifying credit exposure or MPMV in a diversified derivatives portfolio that is part of a large, diversified operating company, S&P does not believe there is a need to calculate the potential maximum market values of each specific product for each tenor, as it would in a monoline-enhanced subsidiary to which a 'AAA' rating is assigned. S&P examines the general mix of counterparties, products, and tenors of contracts in bank portfolios periodically and formulates an opinion of how risky the portfolio is based on that mix.

PRODUCT MIX DETERMINES VOLATILITY

S&P has an estimate of the volatility of market values for each broad product category in large diversified portfolios. This affords some idea of how high the credit exposure (PMV) can reach relative to notional amounts of those products. For example, the MVs for the whole range of currency, or foreign-exchange (FX) contracts, and equity and commodity contracts, have been very volatile: they virtually doubled over the fourth quarter last year in response to the drop in interest rates, then fell sharply in the following quarter, only to shoot up in the second quarter of 1992 *(see charts)*. Interest-rate contract portfolios are considerably less volatile, but nevertheless their MVs also jumped when rates eased. Relative to notional amounts, the PMV has fluctuated between 1.1% and 3.8% for FX contracts during the period shown, and 0.6% and 2.4% for interest-rate contracts *(see table 1)*.

Refining the general categories of currency and interest rate contracts, S&P ranks the various derivative product types by volatility. Commodity and equity contracts clearly are substantially more volatile than the average portfolio product. This means they can reach higher levels of market value relative to notional amounts than do other products. Within the currency category, currency swaps tend to be highly volatile. Currency op-

tions are less volatile, followed by currency futures and forwards. The risk factors appear to be highly influenced by the average tenors of the products in diversified bank portfolios, with longer-dated contracts being much more volatile than shorter-dated ones. Swaps tend to be of longer tenor than options or futures/forwards.

Interest-rate contracts are, in general, less risky than currency contracts. Within the interest-rate category, interest-rate swaps are the most risky, with options a little less so, and futures and forwards representing very little credit exposure relative to notional amounts, again because they tend to be very short dated.

In analyzing the mix of the various bank portfolios, Bankers Trust New York Corp. and J.P. Morgan & Co. have the highest risk profile because they are more involved with commodity and equity contracts *(see table 2)*. In addition, J.P. Morgan, and to a lesser extent Bankers Trust, have the greatest proportion of contracts maturing in more than one year *(see table 3)*. This translates into generally higher market values relative to notional amounts.

Table 2
Derivative product mix

	—As of June 30, 1992—							
	BankAmerica	Bankers Trust NY	Chase Manhattan	Chemical Banking	Citicorp	Continental Banking	First Chicago	J.P. Morgan
($)								
Commodities	0	24 665	7 281	411	6 212	495	103	23 466
Fx swaps	27 663	68 531	20 184	45 770	45 954	898	9 225	95 426
Fx options	6 916	48 996	16 209	19 562	40 704	7 604	38 374	32 240
Fx futures	411 914	296 017	423 726	473 727	762 325	23 163	178 204	267 459
Interest swaps	203 817	244 584	215 166	297 610	227 984	51 684	75 631	311 145
Int. options	33 897	64 415	32 176	67 050	71 512	17 768	15 285	99 436
Int. futures	110 968	211 191	121 891	392 182	271 398	35 071	70 842	179 573
Total	795 175	958 399	836 633	1 296 312	1 426 089	136 683	387 664	1 013 745
(%)								
Commodity	0.0	2.6	0.8	0.0	0.4	0.4	0.0	2.3
Fx swaps	3.5	7.2	2.4	3.5	3.2	0.7	2.4	8.4
Fx options	0.9	5.1	1.9	1.5	2.9	5.6	9.9	4.7
Fx futures	51.8	30.9	50.6	36.5	53.5	16.9	46.0	26.4
Int. swaps	25.6	25.5	25.7	23.0	16.0	37.8	19.5	30.7
Int. options	4.3	6.7	3.8	5.2	5.0	13.0	3.9	9.8
Int. futures	14.0	22.0	14.6	30.3	19.0	25.7	18.3	17.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Federal Reserve Board FRY-9C Report

Table 3
Derivatives maturity mix*

	Interest rate contracts		Currency contracts		
	< 1 year(%)	> 1 year(%)	< 1 year(%)	> 1 year(%)	Total (%)
BankAmerica	16.5	23.3	55.1	5.1	100
Bankers Trust NY	21.3	24.6	42.5	11.6	100
Chase Manhattan	21.3	22.6	52.0	4.0	100
Chemical Banking	42.2	16.9	38.2	2.7	100
Citicorp	23.2	15.3	55.1	6.4	100
Continental	36.7	40.3	21.6	1.5	100
First Chicago	25.9	16.9	52.9	4.3	100
J.P. Morgan	21.0	36.7	30.0	12.3	100

*As of June 30, 1992. Source: Federal Reserve Board FRY-9C Reports.

S&P MODEL MEASURES CREDIT EXPOSURE

In order to quantify the amount of credit risk represented by derivatives portfolios, S&P first estimates the MPMV of portfolios based on the portfolio product mix, then applies an expected default rate to that MPMV estimate.

The MPMV is calculated by multiplying the notional amounts of the product types by certain percentage factors. The operation yields approximate values for diversified portfolios of broadly defined product types. These diversified portfolios are assumed to have average distributions of products and tenors. The factors are derived from observations of actual peak portfolio values for some bank dealers over a relatively brief historical period. Thus, they are based on a "black box" method rather than being mathematically derived from calculations of volatility in underlying rates. The percentage factors increase with the assessed riskiness or volatility of the products. The specific factors will be reassessed periodically as new data are accumulated. For the time being, the factors S&P uses are as follows:

- 15%—Commodity/equity contracts,
- 10%—Currency swaps,
- 4.0%—Currency options,
- 3.0%—Currency futures/forwards,
- 2.5%—Interest rate swaps,
- 2.0%—Interest rate options, and
- 0.3%—Interest rate futures/forwards.

The resulting MPMV estimate does not reflect the effect of netting because good data on nettable contracts are not available at this time.

The expected credit loss is estimated by factoring in the average distribution of counterparty credit ratings and contract maturities of bank portfolios. It relies on S&P's default study on bonds to determine default rates. For the average bank portfolio,

with average counterparty credit quality and an average distribution of contract maturities, the expected cumulative default rate over the remaining life of the portfolio is 0.8% *(For MPMV and credit loss estimates, see table 4)*

It must be emphasized as well that this is an estimate of the most likely, or expected rate of default, not a worst case level. It is also a broad-brush approach that does not adjust for the differences in the riskiness of individual bank portfolios. In reality, those with shorter-dated portfolios, for instance Chemical Banking Corp., would experience lower loss levels than others. The low level of loss is a function both of the high average credit quality of the counterparties and of the short-dated maturity structure of the portfolios. The average maturity of most portfolios is less than two years, with 70%–80% of contracts maturing in less than one year.

Table 4
Capital assessment for derivatives (Mil. $)

	—As of June 30, 1992—			
	Actual market val	Maximum potential market val *	0.8% credit charge	2% A level capital charge
BankAmerica	18,357	21,507	172	430
Bankers Trust	21,604	29,430	235	589
Chase Manhattan	16,672	22,859	183	457
Chemical Banking	19,277	29,591	237	592
Citicorp	23,484	37,969	304	759
Continental Banking	1,950	2,916	23	55
First Chicago	7,237	10,228	82	205
J.P. Morgan	20,029	32,282	258	646

*The maximum potential market value (MPMV) is calculated as the sum of the following percentages of notional amounts: Commodities—15%; Fx swap—10%; Fx option—4%; Fx future—3%; Int. swap—2.5%; Int. option—2%; Int. future—0.3%.

These credit loss estimates are generally less than the Bank of International Settlements (BIS) capital requirements for derivatives at June 30, 1992. However, BIS requirements vary greatly from quarter to quarter due to the use of an add-on approach to estimate the amount by which market values can increase from the current level. Thus, the BIS standards vary with the volatility of current market values.

MANAGEMENT POLICY KEY TO MARKET RISK

Market risk is the risk that the net value of the derivatives portfolio will change based on interest-rate fluctuations because the portfolio is not perfectly hedged, or matched. Changes in the net value (PMV - NMV) are recognized as trading gains or losses in earnings and on the balance sheet for those using mark-to-market accounting.

In theory it is possible for dealers to be completely neutral to changes in underlying rates. Each contract benefiting from an increase in a particular rate can be hedged, or matched, with a contract or security benefiting from a decrease in the same rate. The major dealers with large distribution networks and intimate knowledge of supply and demand in the marketplace often enter into contracts knowing they can offset the position with another client or dealer with a similar contract on the other side of the market. At times, however, this may not be the case, or there may be a time delay. The dealer can then offset the position with an on-balance-sheet transaction, in treasuries, for instance. Or the dealer can purchase a contract to hedge the position with another dealer. With the best of intentions, perfect hedges are elusive. Often there is basis risk or small mismatches in maturities that under some market conditions will prevent the two instruments from moving in two equal but opposite directions.

But the key to the degree of market risk is management policy. Given that the tools exist to hedge, management discretion as well as policies that identify and place limits on risk taking are the determinants of the degree of risk. Another important element is the management information systems that can present a comprehensive global picture of positions.

In managing market risk, dealers use many of the same techniques employed in managing any other type of trading risk. Common methods employ some notion of setting limits per trader based on statistical calculations of earnings at risk. Once again, model risk comes into play.

The potential impact of imperfectly hedged positions is very large. However, the major dealers appear to practice good risk management with very little intentional position taking. One evidence of this is revenues from derivatives have been relatively stable—one of the more stable elements of the trading revenue line. If portfolios were grossly mismatched the revenue, which is the change in net market value (PMV-NMV) of the portfolio over the period, would be very volatile.

ACCOUNTING PRACTICES VARY

As one would expect with rapidly developing new products, accounting standards have been hard pressed to keep up, creating what could be called *accounting risk*. Most major dealers have at this time accepted the use of mark-to-market accounting rather than accrual accounting. But significant discretion is permitted in the area of marking derivative contracts to market. Public quotes do not exist for some types of contracts, particularly the most esoteric ones. In some cases, prices can be derived from publicly quoted swaps curves. In others, mathematical formulas may be used. In both cases computed prices can vary greatly depending on assumptions used, resulting in some contracts being mispriced and subject to revaluation.

Dealers may also chose between so-called mid-point pricing or bid/offer pricing. Midpoint refers to the mid-point between the bid/offer spread. Choosing the bid or offer price, or the price at which the contract could actually be sold, results in less income being recognized up front. The spread between the bid or offer and the mid-point effectively becomes a kind of holdback or reserve. With successive marks to market using present value calculations, that spread is amortized into income over the life of the contract. Some banks even hold back additional amounts

to cover contingencies such as credit risk. Because these holdbacks serve to shift income to future periods and create reserves that would cover any misestimates of prices that had occurred, or any credit losses, bid/offer pricing is more conservative than mid-point pricing. At the same time, however, the holdbacks, which in some cases represent substantial sums, render comparisons of income statements and balance sheets of these business lines among dealers very difficult. The risk is that standardization of methods of marking to market could result in significant revaluations for some dealers.

CAPITAL NEEDED TO COVER ALL RISKS

The derivatives business has grown to be a substantial user of capital at the major dealers. It is a larger user of capital, in S&P's estimation, than it generally is in managements' eyes. Most of the capital allocated by bank managements covers credit risks, with generally a small concession for market risk. BIS regulations also only address credit risk. S&P believes that for derivatives just as for lending, substantial additional capital is needed to cover risks other than the most probable credit loss level. For example, there is a risk that losses would approach a higher-than-expected, or worst-case level. Capital is also needed to cover market risk. Banks generally allocate modest levels of capital for market risk. It covers the losses that could be incurred based on volatility levels incorporated in their models. However, S&P believes that market risk could be much higher, especially in periods of market disruption or sudden deviations from historic rate levels. Legal risks, such as the enforceability of contracts, also need to be covered. Such risk has led to the largest losses for derivatives dealers to date, namely, the Hammersmith & Fulham case. As a final catch-all category, capital is needed to general business risk. Taken together, these risks are substantial and require appropriate levels of capital. S&P assigns provisionally 2% capital against the credit exposure (MPMV). Thus ranks the business risk of derivatives among the lowest of bank activities. Should evidence mount that the risks are higher, capital assessment could be revised.

S&P adjusts capital levels on a case-by-case basis depending on its assessment of the risks of individual bank portfolios. Capital requirements also vary depending on the rating level. The 2% capital assessment is commensurate with an 'A' rating. More capital is required for higher ratings.

The major dealers have the financial resources to cover the capital needs of the derivatives activities indicated by the S&P methodology, and S&P does not expect to make any rating changes as a result of these calculations. In fact, S&P does not view the existence of a large derivatives operation to be inconsistent with high ratings. For example, two of the largest derivatives dealers, J.P. Morgan and Bankers Trust, are also among the highest rated banks, at 'AAA' and 'AA', respectively.

BANKS BENEFIT FROM DERIVATIVES PROFITS

Profits derived from derivatives activities have become very important to major U.S. money-center banks, accounting for a very substantial portion of wholesale banking profits. Derivative revenues represent about a fifth of total revenues at J.P. Morgan, for example. The derivative business can be seen as a replacement for the old interest income money-center banks enjoyed from their top-tier clients, who have since turned directly to the commercial paper and other securities markets to obtain funds. The cash flows from interest-rate swaps, for instance, resemble cash flows from lending activities: the bank collects monies based upon one rate schedule, while paying out monies on another schedule. For example on fixed/floating-interest swaps, the bank may receive from its counterparty a fixed rate on a given notional amount, which is analogous to a loan amount, while receiving a floating rate on a like notional amount from that same counterparty. Of course, income from derivatives is accounted for on a mark-to-market basis. Nevertheless, most income comes from a different kind of spread—the bid/offer spread on contracts. Prices of contracts conceptually represent the present value of expected net cash flows that are amortized over the life of the contract. This spread income has been fairly stable and dependent more on volume than on rate volatility. Some additional earnings on the float from payments received but not yet paid out is recognized in interest income. These stable sources of income should be viewed as good-quality earnings for banks.

The derivative business has become an important one to both the banks and to the economy. It carries certain risks but these risks are familiar to banks. Key among them—credit risk—is adequately quantifiable and less likely to cause as many difficulties for banks as have their lending operations, given the higher credit quality of the counterparties. Continued vigilance is needed to ensure that the risks remain adequately supported by capital. The industry needs to continue to improve monitoring systems and public disclosure to increase the transparency of the business.

Tanya Azarchs
(212) 208-1543

THE FOLLOWING PAGES UPDATE

CERTAIN TABLES IN THE ARTICLE

AND PROVIDE SUPPLEMENTARY INFORMATION

TO

"BANKS FACE MANAGEABLE RISKS IN DERIVATIVES BUSINESSES"

NOVEMBER 1992

Derivative Exposure

June 30, 1993	Total Notional Amount ($ Billion)	Total Market Value ($ Billion)
Bank America	864	16.5
Bankers Trust NY	1,406	22.9
Chase Manhattan	946	16.5
Chemical Banking	1,952	23.9
Citicorp	1,645	26.6
Continental Banking	139	2.1
First Chicago	417	7.5
J.P. Morgan	1,371	27.9

Source: Federal Reserve FRY 9 Report

Derivative Exposure ($ Mil.)

	Currency & Commodities		Interest Rates	
	Notional Amount Cost/Not'l	% Replacement Cost/Not'l	Notional Amount	% Replacement
BankAmerica				
1991:1Q	211,390	3.12%	128,232	0.67%
1991:2Q	206,392	2.62%	151,350	0.48%
1991:3Q	237,773	1.56%	192,142	0.66%
1991:4Q	232,967	3.61%	225,679	0.81%
1992:1Q	283,893	1.24%	229,730	0.63%
1992:2Q	446,493	2.89%	348,682	1.57%
1992:3Q	459,442	3.42%	348,112	1.93%
1992:4Q	396,203	3.05%	356,931	1.59%
1993:1Q	419,800	2.21%	383,163	1.75%
1993:2Q	458,702	2.16%	405,517	1.72%
Bankers Trust				
1991:1Q	422,720	2.94%	295,244	1.38%
1991:2Q	457,412	2.54%	309,141	1.36%
1991:3Q	409,779	2.80%	359,838	1.47%
1991:4Q	368,354	3.82%	336,118	2.01%
1992:1Q	425,143	2.50%	404,572	1.37%
1992:2Q	438,209	3.48%	520,190	1.22%
1992:3Q	494,800	3.53%	703,478	1.03%
1992:4Q	408,675	3.46%	551,774	1.20%
1993:1Q	482,160	2.65%	691,120	1.11%
1993:2Q	544,562	2.73%	861,021	0.94%
Chase Manhattan				
1991:1Q	427,200	2.66%	338,328	0.90%
1991:2Q	419,491	2.62%	281,649	1.16%
1991:3Q	428,747	2.05%	316,251	1.24%
1991:4Q	414,853	3.35%	320,824	1.65%
1992:1Q	494,149	1.21%	304,871	1.38%
1992:2Q	467,401	2.55%	369,233	1.28%
1992:3Q	553,671	2.88%	402,927	1.43%
1992:4Q	477,379	2.50%	361,211	1.41%
1993:1Q	480,884	1.92%	382,747	1.62%
1993:2Q	527,663	1.96%	419,323	1.47%
Chemical Banking				
1991:1Q	434,706	2.00%	491,809	0.80%
1991:2Q	506,049	2.38%	459,019	0.85%
1991:3Q	483,500	2.07%	527,836	1.13%
1991:4Q	548,350	2.61%	635,797	1.13%
1992:1Q	496,977	1.10%	740,424	0.85%
1992:2Q	539,470	2.07%	756,842	1.08%
1992:3Q	671,945	2.66%	991,129	0.96%
1992:4Q	533,932	2.90%	995,784	0.76%
1993:1Q	597,106	2.13%	1,097,694	0.77%
1993:2Q	667,733	2.27%	1,284,399	0.68%

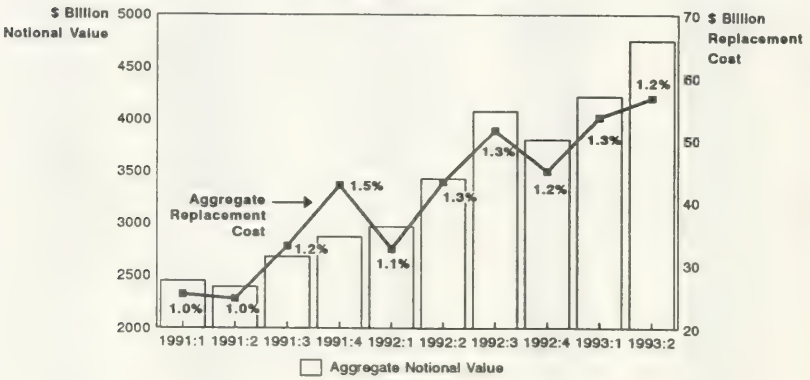
(1)

	Currency & Commodities		*Interest Rates*	
	Notional Amount Cost/Not'l	% Replacement Cost/Not'l	Notional Amount	% Replacement
Citicorp				
1991:1Q	736,171	1.83%	427,384	0.93%
1991:2Q	693,693	2.64%	429,863	0.88%
1991:3Q	689,585	1.95%	442,804	1.01%
1991:4Q	683,146	3.05%	443,922	1.31%
1992:1Q	767,062	1.40%	501,008	0.96%
1992:2Q	855,195	2.05%	570,894	1.04%
1992:3Q	1,031,902	2.27%	631,244	1.07%
1992:4Q	881,463	2.34%	550,190	1.09%
1993:1Q	980,143	1.69%	564,645	1.25%
1993:2Q	1,036,657	1.87%	608,769	1.19%
Continental				
1991:1Q	43,839	2.75%	109,305	0.70%
1991:2Q	33,934	2.82%	107,769	0.69%
1991:3Q	38,183	1.78%	119,549	0.93%
1991:4Q	31,284	3.13%	119,575	1.24%
1992:1Q	26,733	1.45%	104,121	1.05%
1992:2Q	32,160	2.10%	104,523	1.22%
1992:3Q	36,401	2.24%	113,156	1.42%
1992:4Q	26,467	1.82%	101,179	1.43%
1993:1Q	26,649	1.46%	105,111	1.55%
1993:2Q	29,664	1.52%	109,615	1.47%
1st Chicago				
1991:1Q	213,242	2.74%	122,910	0.66%
1991:2Q	194,148	2.33%	124,911	0.65%
1991:3Q	170,374	1.82%	131,086	0.97%
1991:4Q	179,500	3.08%	128,242	1.27%
1992:1Q	205,815	1.38%	139,253	1.35%
1992:2Q	225,906	2.30%	161,758	1.26%
1992:3Q	267,517	3.23%	183,024	1.25%
1992:4Q	217,529	2.81%	169,502	1.26%
1993:1Q	210,590	2.22%	181,041	1.43%
1993:2Q	215,541	2.11%	201,157	1.49%
J.P.Morgan				
1991:1Q	333,810	2.95%	367,931	1.48%
1991:2Q	347,858	2.90%	361,426	1.35%
1991:3Q	323,191	2.41%	427,808	1.53%
1991:4Q	337,859	3.50%	473,875	1.77%
1992:1Q	376,711	1.98%	537,950	1.34%
1992:2Q	423,592	2.57%	590,154	1.55%
1991:3Q	494,801	3.13%	703,478	1.65%
1992:4Q	421,776	2.75%	714,814	1.46%
1993:1Q	485,794	2.38%	811,962	1.63%
1993:2Q	512,858	2.53%	858,180	1.74%
Security Pacific				
1991:1Q	178,321	2.61%	164,044	1.51%
1991:2Q	177,667	2.61%	163,906	1.43%
1991:3Q	195,370	1.91%	156,766	1.97%
1991:4Q	174,068	3.72%	179,298	2.38%

(7)

Derivative Exposure

Interest Rate Contracts

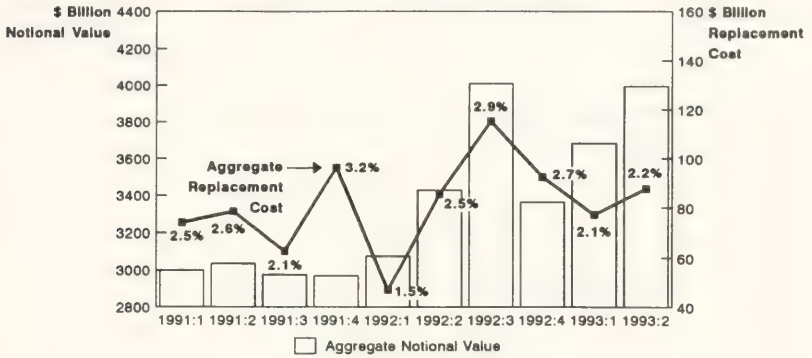


*Aggregates are for 8 Major U.S. Commercial Bank Dealers

Note: Percentages Represent the Percent Replacement Cost to Notional Value

Derivative Exposure

Currency & Commodities Contracts

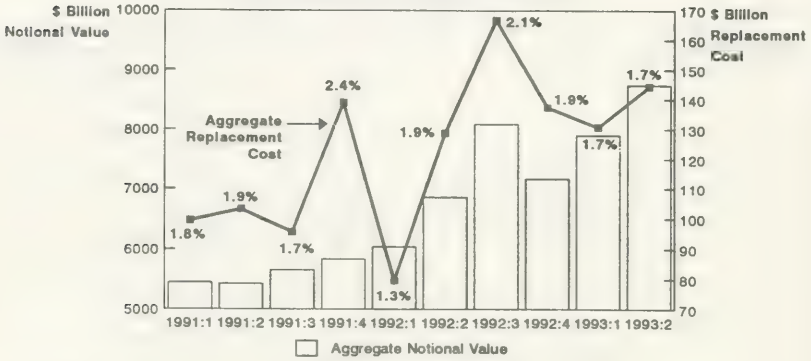


* Aggregates for 8 Banks

Note: Percentages Represent the Percent Replacement Cost to Notional Value

Derivative Exposure

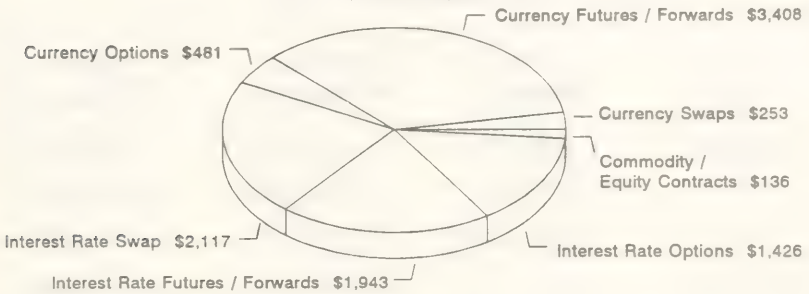
Total Derivative Contracts



Note: Percentages Represent the Percent Replacement Cost to Notional Value

Derivative Contracts

June 30, 1993
($ Billion)


Currency Futures / Forwards $3,408
Currency Options $481
Currency Swaps $253
Commodity / Equity Contracts $136
Interest Rate Swap $2,117
Interest Rate Options $1,426
Interest Rate Futures / Forwards $1,943

Total - $9,763 Billion

For 8 U.S. Dealers

Notional Volumes

Interest Rates ($ Bil.)

	Swaps	Futures / Forwards	Total Options
1991:1	1,296,777	895,692	610,959
1991:2	1,285,787	866,787	591,509
1991:3	1,355,442	1,026,950	674,938
1991:4	1,442,401	1,056,103	747,566
1992:1	1,375,637	1,211,209	758,945
1992:2	1,627,620	1,393,117	802,124
1992:3	1,834,868	1,707,265	951,142
1992:4	1,768,376	1,592,030	905,722
1993:1	1,888,080	1,846,985	995,340
1993:2	2,117,082	1,942,508	1,425,884

Notional Volumes

Currency ($ Bil.)

	Swaps	Futures / Forwards	Total Options
1991:1	270,139	2,419,323	524,772
1991:2	272,925	2,458,193	521,545
1991:3	273,986	2,437,832	438,047
1991:4	281,613	2,426,726	409,348
1992:1	251,071	2,559,143	404,655
1992:2	303,652	2,836,535	452,558
1992:3	320,533	3,337,435	555,949
1992:4	253,983	2,817,054	435,128
1993:1	256,517	3,085,901	507,808
1993:2	252,671	3,408,387	480,593

Notional Volumes

Commodities ($ Bil.)

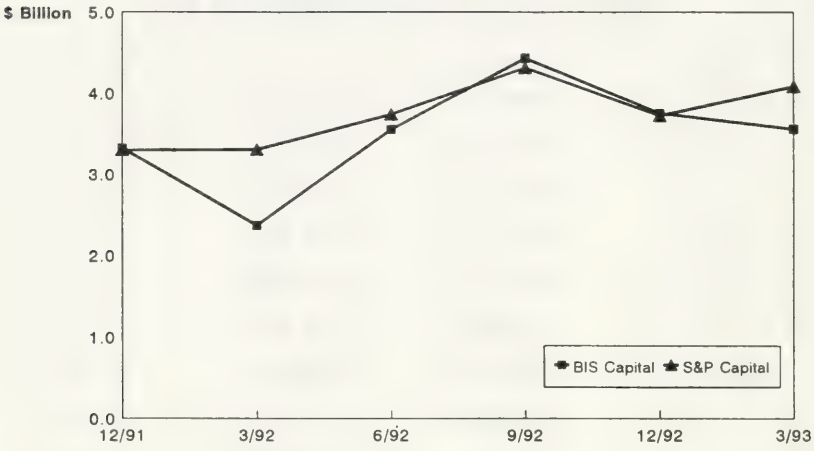
	Swaps	Futures / Forwards	Total Options
1991:1	4,642	22,577	49,988
1991:2	5,512	22,920	52,049
1991:3	5,153	20,494	60,653
1991:4	6,546	21,550	104,052
1992:1	10,161	22,497	141,673
1992:2	13,616	18,108	65,749
1992:3	18,219	23,545	53,594
1992:4	16,180	23,176	65,100
1993:1	18,171	39,021	68,812
1993:2	25,761	30,292	79,982

Notional Volumes

Total Derivative Contracts ($ Bil.)

1991:1	6,094,869
1991:2	6,077,227
1991:3	6,293,495
1991:4	6,495,905
1992:1	6,734,991
1992:2	7,513,079
1992:3	8,802,550
1992:4	7,876,749
1993:1	8,706,635
1993:2	9,763,160

S&P & BIS Capital



* Aggregate of 8 Banks

ADDITIONAL STATEMENTS

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U.S. HOUSE OF REPRESENTATIVES

COMMITTEE ON BANKING, FINANCE AND URBAN AFFAIRS

ONE HUNDRED THIRD CONGRESS

2129 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-6050

October 12, 1993

Mr. Carleton D. Pearl
Vice President - Treasurer
McDonald's Corporation
McDonald's Plaza
Oak Brook, IL 60521

Dear Mr. Pearl:

On October 28, 1993 at 10:00 a.m. the Committee on Banking, Finance and Urban Affairs will hold a hearing on the safety and soundness issues associated with bank derivatives activities. You are invited to testify at this hearing.

The Committee is interested in discussing the private sector uses of derivative products from an end-user's perspective. It would be most helpful if you could provide written testimony for the following questions.

McDonald's Corporation

1. What types of derivative products are purchased by your corporation? How do they improve your corporate finances (cash flow, cost of funds, etc)?

2. From whom do you purchase derivative products? Do you approach dealers or do they approach you?

3. How do you measure counterparty risk? How do you insure against counterparty risk?

4. Please describe the pricing of derivative products. Have you been able to observe any increasing efficiencies or inefficiencies in this growing market?

McDonald's Restaurant Owners

5. How is the use of derivative products for restaurant owners different than the corporation's?

6. What types of derivative products do you encourage your restaurant owners to purchase? How do they improve the financial condition of your restaurant owners?

7. From whom do your restaurant owners purchase derivative products? How do they measure counterparty risk? How do they insure against counterparty risk?

8. If the market for derivative products expands to include smaller, more local dealers, would this increase efficiency for your restaurant owners?

Please feel free to address any other issues that will shed light on how the private purchases and uses derivative products.

You will be given approximately five minutes to summarize your written remarks. Banking Committee rules require that two hundred copies of your written testimony be delivered to Room 2129, Rayburn House Office Building, Washington, D.C. 20515 no later than the close of business October 26, 1993.

Thank you for your cooperation. The Committee looks forward to your testimony.

Sincerely,

Henry B. Gonzalez
Chairman

HBG:mpc

McDonald's Corporation
McDonald's Plaza
Oak Brook, Illinois 60521
Direct Dial Number
708/575-6127

November 29, 1993

Honorable Henry B. Gonzalez, Chairman
Committee on Banking, Finance and Urban Affairs
2129 Rayburn House Office Building
Washington, D. C. 20515-6050

Dear Mr. Chairman:

McDonald's appreciates the opportunity to assist the Committee in its study of the use of derivatives. We believe that the financial derivative markets provide a significant value to the McDonald's system. We also believe that the risks derivatives carry, if managed properly, are preferable to the risks which derivatives can hedge.

The Corporation has been using derivatives for over ten years, and we find them invaluable for managing our interest rate and foreign currency risks. Even more important, banks and other lenders have found ways to offer the benefits of these complex financial instruments to our 2,600 independent franchise holders in the U. S.

OWNER/OPERATOR FINANCING

Currently, 82% of McDonald's U. S. restaurants are independently owned and operated through franchise agreements which are generally 20 years in duration. As part of national and regional lending programs, upon which many owner/operators rely to finance their restaurant businesses, some lenders have accessed the over-the-counter derivative markets to enhance the loan packages they offer.

Some floating rate loan packages offer interest rate protection in the form of caps or collars, the cost for which is built into the interest rate charged on the loan. Lenders are able to provide the caps or collars by purchasing options. Other packages offer very attractively priced fixed rate loans, which lenders are able to provide by swapping an underlying floating rate source of funds into the fixed rate funds desired by the owner/operators.

It is important to emphasize that these loan packages which offer interest protection on floating rate loans or attractive pricing on fixed rate loans would not be available to our owner/operators without the over-the-counter derivative markets. Exchange traded derivatives are not sufficiently flexible to meet the financing needs of our owner/operators.

Three lenders in our national programs offer these derivative-enhanced financing packages to our owner/operators. Texas Commerce Bank, The First National Bank of Boston, and MetLife Capital have loans outstanding with 850 borrowers in all fifty states, the principal balance of

which amounts to $550 million. Because derivative-enhanced packages are so attractive, the amount of outstanding loans in these programs has more than tripled in the last three years.

In addition to the national lenders, twelve banks throughout the country in our regional lending programs offer caps or collars on floating rate loans to owner/operators.

In all these loan packages, the use of derivatives by the lenders is transparent to the owner/operators. The lenders enter into the derivative contracts, transfer the protection or pricing benefits into the loan packages, and include the cost of the derivatives in the interest rate charged on the loans. Since owner/operators are not direct parties to the derivative contracts, they bear no counterparty credit risk on the transactions.

We believe that the banking industry has a great opportunity to deliver the benefits of derivatives to small and medium size businesses in a manner similar to our lender programs. Financial risk management tools can thereby become available to business men and women who do not have financial staffs and the expertise to analyze specific derivative transactions.

McDONALD'S CORPORATION USE OF DERIVATIVES

McDonald's Corporation uses derivatives such as interest rate and currency swaps, forward currency contracts, and currency options to manage the interest rate and foreign exchange risks of its global business. Our use of derivatives is not intended to generate profits for the Company. Of these derivatives, our swap contracts are for the largest amounts and the longest terms; accordingly, most of the following comments relate to our swap portfolio.

Interest Rate Swaps

As a general rule, due to the long-term nature of our business assets and our desire to lock-in occupancy costs, our debt portfolio consists primarily of long-term, fixed-rate debt. Depending on our upcoming funding needs and our view of interest rate trends, the overall percentage of consolidated fixed-rate debt generally ranges from 60% to 80%. We use interest rate swaps to change the mix of our fixed and floating rate debt and to position the Company for an expected change in interest rate levels.

Because of its huge size, the swap market is flexible, readily accessible, efficient and cost-effective -- much more so than alternatives for managing our interest rate risks, and that's important because views on interest rates and the needs of the Company can change.

We can choose the effective date for a swap, which can be two days from transaction or farther into the future on a forward start basis. We can also easily initiate and close out positions, and prompt execution permits us to lock in the terms of the deal immediately. The alternative method for adjusting our fixed to floating rate debt is to issue new floating rate debt and use the proceeds to call or repurchase one of our fixed-rate bonds, or to purchase fixed-rate government securities; however, these alternatives are much more costly and time consuming, and impractical in many instances.

Currency Swaps

In line with our overall financing philosophy, currency swaps create foreign currency liabilities and cash outflows which match assets and cash inflows in those currencies. Ideally, we would like to create foreign currency obligations by borrowing the needed currencies in the public or private debt markets; however, in terms of timing, amounts and terms needed, flexibility, and cost-effective pricing, what we want is not always available.

The swap market is often the only source of long-term fixed-rate foreign currency for certain of our international markets, whose borrowing needs are just too small to be funded through the capital markets. Local bank lines are most likely available, but they are generally more expensive by at least 150 basis points.

For much of the past two years, the swap market has provided foreign currencies at a lower cost than the public debt markets. When currencies have been available, debt market interest rates have been higher than those of the swap market by at least 20 to 40 basis points.

Forward currency contracts and currency options

In order to protect the value of foreign currency cash inflows (royalties and interest) into the U. S., we periodically hedge the foreign exchange risk on these inflows using short-term forward currency contracts and currency options. Since McDonald's U. S. is the recipient of the foreign currency inflows, we only sell the foreign currencies forward, as viewpoints dictate the need for a hedge. We do not buy foreign currencies forward, other than to offset an existing contract to sell or to fund a specific upcoming foreign currency need.

COUNTERPARTIES TO DERIVATIVE CONTRACTS

McDonald's enters into derivative contracts with high quality institutions which have long-standing financial relationships with the McDonald's System. Generally, we initiate contact with the institution when the need arises for a particular transaction. As part of an ongoing dialogue, institutions may bring us financing or risk management ideas which may include the use of derivatives.

COUNTERPARTY CREDIT RISK

We define the exposure to counterparty credit risk on swaps, our highest risk derivative, as the net positive market value of all swaps with a specific counterparty. Our documentation permits us to net the individual positive and negative swap values with the counterparty. We measure our current exposure using swap market values as of the measurement date. We also estimate our potential future exposures on a "conservative" and "worst case" basis using specified levels of movement in currency exchange rates and interest rates.

In managing credit risk, we apply a number of internal guidelines which have been developed through our own experience over time and through reviewing the practices of banks.

Before the Transaction

Before executing a currency swap, we ensure that the swap's cost savings over other alternatives is worth the incremental credit risk. As a general rule, in order to be considered cost-effective, we believe the cost of a swap must be at least 10 - 15 basis points better than the all-in cost of a comparable fixed-rate foreign currency borrowing.

Since contract length is a major factor of swap exposure, we limit the term of any currency swap to seven years, which we and some banks believe is the maximum prudent term for such a swap. On a exception basis, where the additional cost savings justified the longer term or where the swap was tied to a specific bond issue, we have entered into currency swaps for ten years.

We match the potential exposure of the swap with the credit quality of the proposed counterparties. Currency swaps of five years maturity or longer, with limited exceptions, are only done with double A credits or better. Interest rate swaps, which carry much less risk, are done with these credits, and with lesser credits having major relationships with the McDonald's System.

We also diversify our portfolio risks among a number of quality counterparty credits. Our 100 swaps are spread among 23 different counterparties.

Our final control before doing a swap is to ensure that the counterparty accepts our standard documentation. We use the Master Swap Agreement developed by ISDA for all our swaps, which gives us right of offset protection, and adds liquidity to the transaction. We are also looking to enhance the protection afforded by our documentation so that we are allowed to net swap positions with other derivatives, such as short-term forward currency contracts, done with the counterparty.

After the Transaction

As part of managing credit risk, we calculate the current market value and current exposure of our swaps and estimate their potential future exposures every two months. The valuations and exposure estimates are provided to top management and to the Board of Directors.

We reduce our exposures when cost-effective opportunities are available. In mid-1993, we issued $460 million of Eurobonds denominated in three foreign currencies when bond pricing reached our target in relation to swap pricing. The obligation for over 50% of these Eurobonds replaced seven currency swaps which we terminated for gains upon issuance of the bonds. We effectively replaced one currency hedge with another and reduced our swap exposure at the same time.

We regularly monitor the credit ratings of our counterparties through Thompson's BankWatch, Moody's and Standard & Poor's. Should a counterparty be downgraded below our guidelines

for transacting, we limit the types of new business with that counterparty and, where practical, we terminate any high exposure positions.

PRICING OF DERIVATIVES

Pricing among dealers is very competitive, especially with interest rate products. The large number of non-U.S. banks in the market have contributed to the competitive pricing. Over the years, the growth in the derivative markets has added significantly greater liquidity and flexibility, and has allowed transactions in more currencies and for longer terms.

SUMMARY

McDonald's appreciates the opportunity to outline for the Committee our prudent use of derivatives and how their benefits have been made available to our owner/operators in a simple and easily understood form. Derivatives help provide the lowest cost and most stable financing for our owner/operators. They also allow the Corporation to better manage its interest rate and foreign exchange risks.

As the Committee considers whether or not to regulate derivatives, I would encourage them to remember that the risks derivatives carry, if managed properly, are preferable to the interest rate and currency risks which derivatives can hedge. At McDonald's, we believe that we understand derivative risks and that our control procedures adequately manage them. As illustrated by the extent of McDonald's activity in the derivative markets, there is no question in our thinking that the risks of derivatives are worth the benefits they provide.

Sincerely,

McDONALD'S CORPORATION

Carleton D. Pearl
Vice President, Treasurer

hanktran

EIR

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Testimony to the
Committee on Banking, Finance and Urban Affairs
U.S. House of Representatives
on the risks of banks' derivatives activities
Oct. 28, 1993

Tax and dry out the derivatives market Don't regulate it

by Christopher White and Richard Freeman
E.I.R. Economics Staff

Chairman Gonzalez, Ladies and Gentlemen:

On March 9 of this year, *EIR* and its founding editor Lyndon LaRouche proposed that a transaction tax be imposed on the sale of all financial instruments classified as "derivatives".

The tax would be levied at a rate of 0.1 percent on the notional value of the transaction. Collection, and reporting, would be the responsibility of the institution performing the sale.

The purpose of the proposed tax is two-fold.

Firstly: to re-establish control over the explosive, eight-fold growth, in these financial instruments, which has been registered in the years since 1987, the year of the futures and options index driven stock market crash.

"Control" is itself a two-fold proposition.

First in priority is the necessity to re-establish political accountability over the workings of the private institutions which comprise the so-called "market-place".

Institutions which have used the slogans of "de-regulation" and "freedom of the market" to leave a trail of wreckage around the globe.

Second, is the common sense requirement to restore some sense of order to financial markets which not only feed on volatility, but promote such volatility as in their own interest, as was underlined recently by an official from Chase Manhattan Bank.

In its second aspect, the proposed tax would be a short-term revenue generator for the Treasury. It would collect approximately $75 billion to $100 billion the first year, and lesser amounts in subsequent years. But revenue generation is not the primary purpose of the proposed tax. The primary purpose would be to take a surgeon's knife to a cancer which is sucking out the life-blood of the economy, and cut it out.

This ought to be done, before it is too late.

The reasons for such required action are economic as well as political. There will be no possibility of any real economic recovery in this nation, or any other, as long as the kind of obscene, speculative, and usurious excesses typified by the derivatives racket are allowed to continue.

Since the "financial community" so-called has shown itself incapable of reforming itself, and, equally incapable of understanding what might be the problems associated with the extension of the kind of practices associated with derivative instruments, it is evident that such a reform can only come from outside the financial community.

What Are Derivatives?

The common financier definition of derivatives is that they reduce risk, by hedging it, or in the case of bank swaps, are instruments that allows parties to swap interest rate streams or currency exposures. That's nonsense. Derivatives don't reduce risk, they magnify it. More than three-quarters of all derivatives traded in the form of bank swaps are between major money center banks and themselves or other financial institutions. Derivatives trading is just a form of gambling. It is a form of useless parasitism.

Derivatives are purely speculative highly leveraged instruments, designed to capture spreads, or pricing differences between interest rates, currencies, or commodities. Rates of return can vary from 10 to 15 percent, up to 2,000 percent, and even higher. In the second quarter of this year, derivatives and other forms of trading constituted 40 percent of the profits of the largest money center banks. They are no longer banks in the traditional sense. Further, derivatives are instruments of financial

warfare, deployed against nations and populations in much the same way the commodity market short-seller has been deployed to bankrupt the farmer. Operating in collusion with the Federal Reserve Board of Governors, 8 money center commercial banks and 4 investment banks dominate 95 percent of all derivatives market trading in the U.S.: Morgan Bank, Bankers Trust, Citibank, Bank of America, Chemical Bank, Chase Manhattan Bank, First Chicago, Continental Illinois, Merrill Lynch, Goldman Sachs, Morgan Stanley and Salomon Brothers.

While billions of people go hungry, and millions are out of work, the volume of trading in financial derivatives by some measures has skyrocketed eightfold since 1987; there was more than $12 trillion outstanding in derivative instruments in the United States at the end of 1992, on a turn-over estimated at between $100 and $125 trillion per year. Worldwide, some $1 trillion, and more, is traded every day on currency exchanges. Three hundred billion dollars of U.S. government debt is likewise traded every day, enough to turn over the entire "publicly held" portion of the debt every trading day. Daily trading of derivatives runs at between $400 and $500 billion every day, greater than the amount the federal government admits its annual budget deficit to be.

Commercial banks, such as the $220 billion in assets Citibank, carry $7 in off-balance sheet derivatives for every $1 it carries on the balance sheet, with little or no reserves backing it up. The blow-out that will result from this will be a financial crash bigger than any of the last 300 years, and a bail-out bill of greater than $1 trillion, which is far bigger than the bail-out bill for the 1980s excesses of unchecked real estate speculation and leveraged buy-outs.

Derivatives are Unconstitutional and Destructive

Under Article 1 Section 8 of the U.S. Constitution, in particular, the General Welfare provision thereof, and the Article's concluding injunction "To make all Laws which shall be necessary and proper for carrying into Execution the foregoing Powers..." Congress has the power to impose such a tax as LaRouche has proposed, and should use it.

The proof that the financial community lacks the comprehension required is elementary. No discussion of derivatives, among regulatory agencies or financial institutions considers the economic impact of what has been done. The arguments and counter-arguments are always restricted to the financial domain as such.

On the one side, there are those who extol the benefits of "new, sophisticated methods of hedging risk", those who stigmatize critics as "naive", and "unsophisticated". On the other side, there are those who wonder, if something has not been unleashed which might easily get out of control, with disastrous results. Ought we not, they ask,

consider how to regulate these new practices, to make sure they do not get out of control.

Both are disastrously wrong. It is not the risks and dangers that you know to be risks and dangers which prove to be fatal. They after all can be avoided. It is the risks and dangers which you do not know. How can institutions hedge against a risk they do not take into account, and cannot take into account because they don't admit it exists?

From this standpoint, the whole discussion promoted by the financial lobby is at best incompetent, and at worst an outright fraud. A witch doctor can indeed claim to know how to cure AIDS, that does not mean everybody else should take his claims at their face value. Indeed to do so would properly be called insane. Derivative instruments are not a disaster waiting to happen, they are the latest symptom of a disaster which was set in train a generation or so ago.

The incompetence, call it that, can be shown in two ways.

First, take the case of agricultural commodities.

It is well known, so well known that hearts are hardened against the reality, that the world suffers a cruel shortage of basic foodstuffs. In fact, the Food and Agricultural Organization of the United Nations, and other agencies, show that some two-thirds of the world's population are at, or below, subsistence levels where basic nutrition is concerned.

This is demand for food. Not though, where the markets are concerned. The so-called "markets" are not interested in demand, but in what they call "effective demand". If you haven't got the money, you can't pay for it, so it doesn't count. So the prospect of a 25 percent reduction in corn supply, because of this year's flood, which translates into a 12 percent reduction or so, world-wide, does not immediately translate into price increases.

But, from some proponents of the North American Free Trade Agreement, we learn that Mexico does not need so many farmers or campesinos, because Mexico should not be producing staple foods, such as corn or wheat. Mexico should purchase such food-stuffs from the United States.

Those farmers and campesinos are being dispossessed. Their lands taken over, ascribed an asset value, to become the asset underlying a derivatives market in secondary mortgages, now being set up by the Mexican Finance Ministry, with help from the FMHA, the HUD and the Savings League.

Insured and securitized mortgages are supposed to be safe, are they not? The risk is taken out. The instrument can be hedged against a variety of other instruments, to cover for currency exposure, interest rate risk and so on. And, what of the country that is to be reduced below penury in that way? Are we to say that the political instability and chaos which follow the enforcement of such policies are beneficial because we desire such an increase in volatility?

The World Bank recommends the same approach be adopted by Palestinians. Shock therapy advocates promote the same proposal as the solution to Russia's agricultural backwardness. Don't produce staples. Buy them from us, and instead, produce specialty goods, like asparagus, bell peppers and tomatoes for export to our markets.

What hedge can off-set what is thus set in motion? If Sodom had its salt-sellers, we have our derivative dealers.

This type of approach is derided by the proponents of the primacy of the market as pure sentimentality, as the illegitimate insertion of considerations of morality into the workings of the market. Leave the market to its own devices, and these matters to their proper sphere, they insist. This attitude is moral insanity in the process of becoming outright criminality, on a scale never before witnessed in human history.

Why so? Because there is a difference between wealth creation and money profits. If you do not permit wealth production to occur, the so-called money profits which are booked from commercial and financial transactions, and hedged against, as to interest rate and currency risk, do not actually exist, except in the form of loot gouged out of a shrinking capacity to produce actual wealth. That is what the financial community doesn't understand, and cannot therefore hedge against.

It is why the derivatives bubble will go the way of the real estate investment trusts, and oil patch speculation of the 1970's, of the third world debt, real estate crisis, leveraged buy-outs and S&L disasters of the 80's. This succession is not accidental. It is not something that can be prevented by uttering the magical phrases we have come to expect like "you don't understand, we have learnt the lessons from those unfortunate events, we are now much better equipped to deal with such things than we ever were before. Now we have derivatives, they enable us to handle such risks, by hedging against their occurrence."

Actually, we now have derivatives precisely because the lessons of those events were not learnt. Rather, we have insisted that the way to get out of one mess is to repeat it on a far grander scale next time around. We insist that the integrity of what we call "financial institutions" take priority over all else, even the physical existence of entire nations, including our own. That everything be done to protect those institutions.

That where we have erred it is because we have not done enough to protect those institutions, whether it be in cutting from public budgets, that more revenues might be made available for debt service, or de-regulating entire sectors of industry and public employment, that capital and operating costs might be slashed to free up financial resources for the ever open maw of the speculators.

Wealth production is not the same as the accountant's creation of money income and money profit.

Wealth production is human activity, no other species on this planet, or anywhere else that we know of, is capable of doing it. Man reproduces his own society by applying scientific advances to increasing the productive powers of labor, through technology. Increased productive powers of labor permit greater numbers of people to exist at improved standards of living. It is an older method than the written prescription of the Book of Genesis, "Go forth and multiply, replenish the earth and subdue it..." It is as recent as the Constitution's Preamble "...to form a more perfect union, establish justice, insure domestic tranquillity, provide for the common defence, promote the general welfare, and provide the blessings of liberty to ourselves and our posterity."

It is the measure of the viability of any form of human society. And, conversely, any society which turns its back on the yard-sticks provided by that measure will go the way of the Sodoms and the Gomorrahs, the Babylons and the Romes. There are no hedges against the working of the Creator's law, no put options or short sales which will forestall His reckoning.

A generation ago, the typical U.S. household included 3.35 people, of those just over 1 was under fifteen years old. By 1990, that same household included 2.6 people, with just over half a child per household. Twenty five years ago, and more one wage-earner could support the household. Now only 10 percent of the more than 90 million households are supported by one wage earner, and also have children.

In 1967 we produced about 82 tons of goods, as measured by freight shipments in the economy as a whole, for each household. By 1990, we produced about 56 such tons. Workers employed in producing such goods on a per household basis, had been reduced by more than 30 percent. Electricity used in industry had been reduced to less than half of what it was a generation ago, in per household terms.

- Those employed in sales or managerial functions had increased by more than 30 percent.

- The number of births, per household, had been cut by one third.

This is a profile of a nation committing suicide.

Yet against this, the measure all economists rely on, "Gross National Product", has tripled, and more. After all, we do things differently now. We don't make shoes. We import them. We don't produce clothes, we import them. We don't need steel, because we no longer build highways, or railroads. We completed the transition to the post-industrial society.

And our debt, that has grown twice as fast as our "Gross National Product", to nearly $14 trillion in all. The debt, whether government debt, secured mortgage debt, credit card debt, corporate debt, is the basis for the securitized instruments which make up banks off-balance sheet liabilities, and then for the derivatives instruments.

But the economy is supporting a seven-fold increase in debt out of a wealth producing sector which is less than half what it was twenty five years ago.

It doesn't add up. And it will not last.

Like all other bubbles that have been, and gone, the derivatives bubble will explode. The question is not whether, but when, and this could be imminent: the question of when is actually over due. When this bubble pops the ongoing depression—already worse than that of the 1930's, which we still call the Great Depression—will be to what is coming, as all previously recorded floods were to the Mississippi flood of this summer. It will be worse than the exploding of the South Sea Bubble. What will follow the popping of the derivative bubble will be the equivalent of a 500-year depression—if the course we are on is not changed.

The EIR-LaRouche tax on derivatives would permit the direction to be changed. It would permit the problems that have been covered up within the banking sector to be identified. It would permit credit flows to be sent where they are needed, to putting the unemployed, and under-employed back to work, in productive jobs, to rebuild an economy that has been ravaged by a generation of speculative excesses and looting.

Appendix A: How A 0.1 Percent Tax On Derivatives Will Work

What the EIR-LaRouche tax proposal would do, if enacted, is knock the usurious speculation out cold. That means his tax proposal would permit the properly constituted authorities, under Section 1, Article 8 of the Constitution, to recapture control of the issuance of money and the creation of credit. That is the precondition for any kind of job-creation program, or economic recovery and reconstruction program.

Here's how it would work.

Currently, the derivatives markets, and other financial markets, pay zero percent sales tax on trades. Most states apply a general sales tax of between 4.5 and 9.0 cents on the dollar; that is, a tax is assessed equal in value to between 4.5 and 9 percent of the value of the purchase (transaction) made at the store. Under the EIR-LaRouche tax proposal, each trade of a financial derivatives market instrument will be assessed a "sales" tax equaling just 0.1 percent of the value of the purchase, far less than the rate ordinary citizens pay every day. It is absurd and dangerous to continuously raise the tax on Social Security and to apply an energy tax, which will devastate every sector of the economy, while the transactions—as opposed to the realization of profit—of the financial derivatives market, which are harmful to the economy, go untaxed.

Let's take the case of the single most widely traded futures contract in the world. It just happens to be the U.S. Treasury's Bond future and it is traded at the Chicago Board of Trade (CBOT). The government issues bonds to raise funds to finance its deficit, and refinance its outstanding debt. Such bonds are issued regularly, by auction, in a variety of different maturities. Interest rates on other obligations, such as fixed-rate mortgages, are effectively linked to the yield on longer term government bonds. Shorter term ones are tied to adjustable rate mortgages, and so forth, in the same way.

The worldwide trading in U.S. bond futures makes a mockery out of all the pious nonsense that is uttered about "cutting the deficit," and "getting the growth of the national debt under control."

In 1992, a whopping 71,099,955 contracts in this future were traded. That figure represents one-quarter of all contracts of all types traded on the CBOT, which is the world's largest exchange. The notional principal value of the underlying bond of the U.S. Treasury Bond contract is $100,000. It is usually a bond of 15 years or longer maturity. The speculator buying this contract does not pay $100,000, but only a fraction of that, which is called the "initial margin requirement." Margin requirements vary from contract to contract, but for this one, the initial margin required is $2,025. The leverage in this contract is the notional principal amount, or $100,000, divided by the margin bond requirement of $2,025. Thus the leverage is a spectacular 49 to 1.

Assume, for a moment, that the bond underlying this contract is a 15-year bond bearing an initial yield of 8 percent. Assume further that, during the first hour of trading, the interest rate on 15-year Treasury bonds fell marginally to 7.995 percent. As bond yields are inverse to prices, that would push up the price of the bond to $100,050. The speculator holding a U.S. Treasury Bond contract has made a $50 profit (to realize it, he must either take physical delivery of the bond, or sell the contract to someone). That $50 represents a rate of profit on the investor's original margin investment of $2,205, of 2.47 percent.

The reader may think that $50 is a very small return. Not at all.

First, speculators in these markets play with very large volumes. A speculator may buy 100 contract units of U.S. Treasury bond futures on the CBOT, meaning that the profit realized in one hour of trading (less commissions, etc.) is $50 times 100, or $5,000.

Second, the actual rate of return placed on a daily or yearly level is huge. For example, were the speculator to continue to realize this 2.47 percent hourly rate of profit for a week, his rate of return would be above 85 percent. Who will invest in steel plants, which return about 5 percent per year, when spectacular rates of return can be made in the derivatives market in a week's worth of trading?

Now, if the EIR-LaRouche 0.1 percent transaction tax is levied against the $100,000 notional principal amount of the U.S. Treasury Bond contract that has been purchased, the tax would yield $100, and could be collected by the exchange. But, in this example, the tax is a necessary, unbridgeable hurdle: The speculator will pay more in tax ($100) than his profit ($50). The EIR-LaRouche tax makes the deal unprofitable.

Just to break even to cover the cost of the transaction tax, the speculator would have to make $100 profit, which represents a rate of profit of 5 percent on this particular transaction. To go over breakeven, the speculator would have to make $150 or so, representing a 7.5 percent rate of profit on his investment. The chance that a Treasury bond will move up $150 in an hour is slim, although hardly impossible, especially in a manipulated market. But markets can turn very suddenly, as speculators very well know. In markets, in which the time it takes to transact a trade is measured in fractions of a second, a speculator can be severely burned if he is constrained to wait in the market long enough for it to realize a full 5-7.5 percent rate of return. If it doesn't in that time frame, and the market jolts the other way, he is doomed.

The threshold level for real or net profitability, introduced by the 0.1 percent transaction tax, will, like a surgical tool, slash trading in this market instrument by at least one-fifth to one-quarter of its volume, puncturing this market, and beginning to dry it out: precisely as the tax is intended.

In this way the tax knocks the bottom out of the existing high turnover speculative market in U.S. government debt, which, at $300 billion per day, is second only to foreign exchange markets in size. Bringing that monster under control is the prerequisite to stabilizing the financial side of the government's operations, and bringing interest rates and credit-generation back under control.

The Stock Index Future

The other example is the Major Market Index (MMI), which is also traded on the Chicago Board of Trade. The MMI is an average of a basket of 20 leading stocks, such as AT&T, Du Pont, or Mobil, and is the favorite of the program traders. By using the MMI in the Chicago futures market, they can send the Dow Jones Industrial Average gyrating up and down. The MMI was one of the chief culprits behind the October 1987 stock market crash. The notional principal of the underlying MMI contract is calculated by a formula, which is 500 times the MMI index's closing price. On May 13, the MMI index closed at $356.40, so the notional principal amount of the MMI futures contract was $178,200. The initial margin requirement that a speculator must commit to buy an MMI futures contract is only $5,400. The leverage built into this contract is 32 times.

Assume that the MMI index trades upward for the day by 25 cents, which, multiplied by 500, per the formula, makes a profit on the contract of $125. However, the 0.1 percent transactions tax for the single trade in the Major Market Index will yield $172. Thus, once again, the tax level is higher than the anticipated profit. A trader in the MMI contract would have to make more than 3.2 percent on his margin investment to go over breakeven. Again, the trading volume of the market in this destructive contract will shrink.

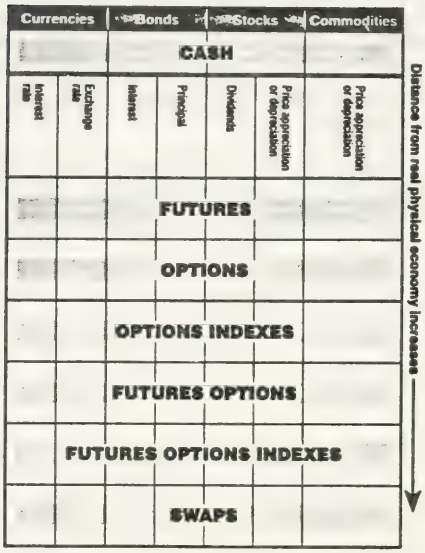
This is how the tax acts to exert reverse leverage. The higher the leverage of the transaction, as in the case of the U.S. Treasury Bond futures contract, the more bite the derivative tax takes, thereby shrinking the markets. In the case of stocks traded on the New York Stock Exchange, the effect is important, but less remarkable. The tax is applied in similar fashion to every section of financial derivatives markets, such as currency and interest-rate swaps held by the banks in the United States.

If one adds up the annual transactions in all the diverse segments of the financial derivatives market—the many and varied derivatives in currencies, stocks, bonds, interest rate futures, commodities, etc—the sum of the notional principal traded value is between $100 and $125 trillion. A precise figure does not exist, in part because of the different trading exchange and government regulatory bodies have not compiled figures for the different segments of the market—and do not want to—because it would expose how large the markets have become. It can be assumed that the tax will reduce trading volume, and, in parallel, a roughly corresponding dollar volume, in all the financial and financial derivative markets by at least one-fifth to one-quarter, or perhaps

larger. The reduction will occur within a matter of weeks of the application of the tax, so that the derivatives market against which the EIR-LaRouche tax can be applied will be reduced to a low of $75 trillion or a high of $100 trillion. A tax of this range of 0.1 percent will yield $75 to $100 billion in annual revenue. After the first year, because the tax is, in part, a "sin" tax, the tax revenue will be smaller. However, as every congressman and senator caught in the budget debate will admit, such a tax produces a very large revenue figure.

Most importantly, the tax harms nothing essential and will lance a growing malignancy. Therefore, either derivatives and their users will submit to an exercise of national will, or the country will submit to the continued rule of those who employ derivatives.

Hierarchy of financial transactions



As one proceeds downward in the chart, transactions have increasingly less bearing on processes in the real physical economy.

TABLE 1

Derivatives markets exploded in late 1980s

(notional principal amount outstanding at year end, billions $)

Instrument	1986	1987	1988	1989	1990	1991
Exchange-traded instruments	$ 583	$ 725	$1,300	$1,762	$2,284	$3,518
Interest rate futures	370	488	895	1,201	1,454	2,159
Interest rate options	146	122	279	387	600	1,072
Currency futures	10	14	12	16	16	18
Currency options	39	60	48	50	56	59
Stock market index futures	15	18	28	42	70	77
Options on stock market indexes	3	23	38	66	88	132
Over-the-counter instruments	500	867	1,330	2,402	3,451	4,080
Interest rate swaps	400	683	1,010	1,503	2,312	2,750
Currency and cross-currency interest rate swaps	100	184	320	449	578	807
Other derivative instruments	–	–	–	450	561	577
Total derivatives outstanding	1,083	1,592	2,630	4,264	5,735	7,598

Source: Bank for International Settlements, *Recent Developments in International Interbank Relations*, Basle, Switzerland, October 1992.

Hierarchy of financial transactions

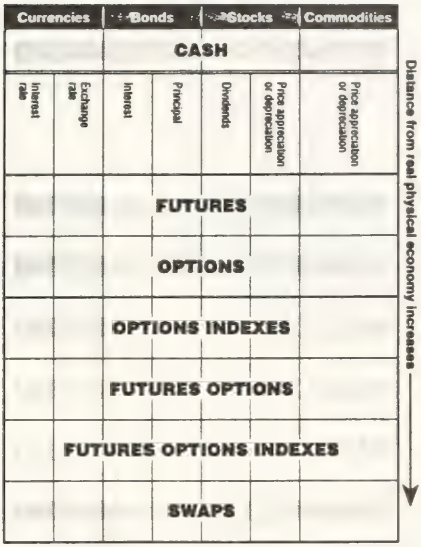


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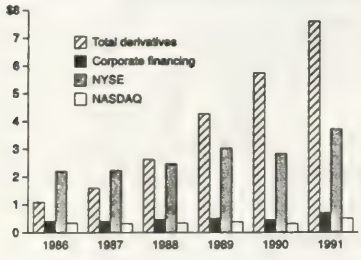
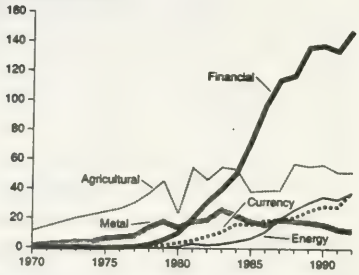
FIGURE 1
Derivatives compared to U.S. corporate financing and stock market capitalizations
(trillions $)



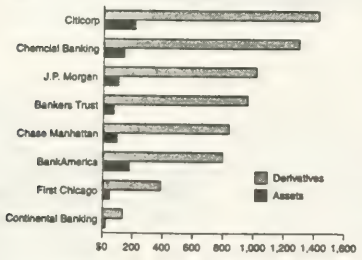
Sources: Bank for International Settlements; Securities Industries Association.

FIGURE 2
Number of futures contracts traded
(millions of contracts)



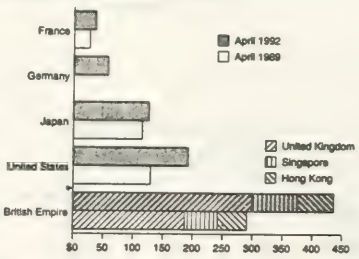
Sources: Commodities Futures Trading Commission; Futures Industries Association.

FIGURE 3
Derivatives activities compared to balance sheet assets at big U.S. banks
(billions $)



Source: Salomon Brothers.

FIGURE 4
The City of London dominates world currency trading
(daily currency market trading in billions $)



Source: Bank for International Settlements.

FIGURE 1
Annual global grain production is below level required, 1981-1991

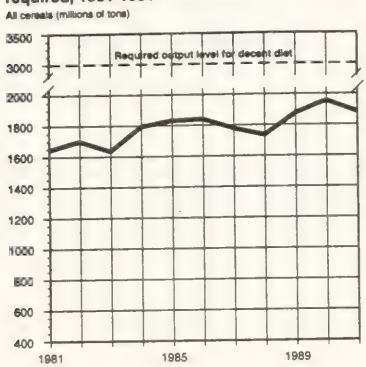


FIGURE 2
World grain stocks far below minimum for food security

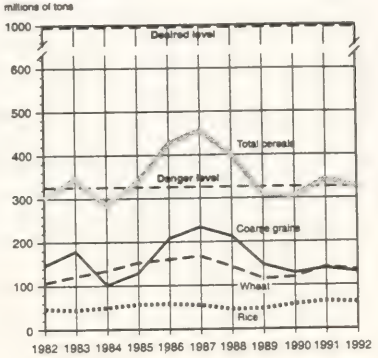


FIGURE 4
Rapid rise in number of U.S. citizens receiving food aid stamps

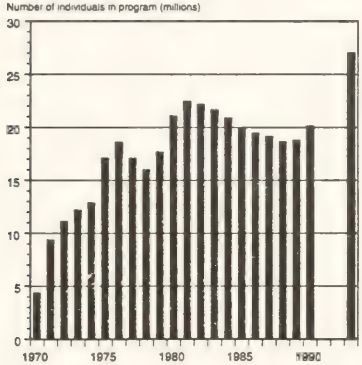


FIGURE 5
International commercial and aid shipments of grain have not increased to fill needs

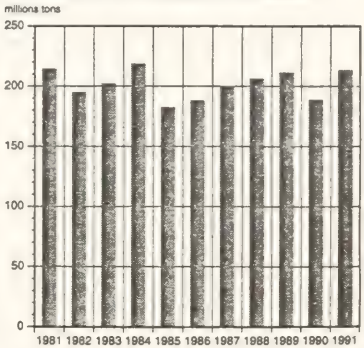


TABLE 1

Spectacular growth of unemployment in the West

(in millions)

Year	Canada	EC-12	France	Germany	Italy	Japan	United Kingdom	United States
1989	1.0	11.6	2.3	2.0	2.6	1.4	1.8	6.5
1990	1.1	12.1	2.5	1.9	2.6	1.3	1.7	6.9
1991	1.4	13.0	2.7	1.7	2.7	1.4	2.3	6.4
1992	1.6	15.5	3.0	3.0*	2.7	1.4	2.8	9.4
1993**	1.6	17.0	3.1	3.3*	3.2	1.5	2.9	8.9

* The number of unemployed in Germany, for 1989-91, reflects solely West Germany. The number changes in 1992 and 1993 to reflect the number for unified Germany as a whole. According to the Bundesbank, the figures for the number of unemployed in the former Western portion of Germany, are 1.8 million in 1992, and 2.2 million thus far in 1993.

** The number of unemployed in 1993 is based on the reporting for either March, April, or May, depending on the country.

Source: Embassies of Canada, France, Germany, and Italy; Japanese External Trade Organization; British Information Service; U.S. Bureau of Labor Statistics, Department of Labor; Delegation of the Commission of the European Communities

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Off-balance-sheet activities of German banks

Off-balance-sheet activities are on the advance in global financial markets. German banks, too, could not and would not disregard the innovation process that is under way, especially as "propensity to innovate" has meanwhile become a factor which is not to be underestimated in competition between the major institutions and financial centres.

Most players in the financial market welcome these activities. On the other hand, in view of the exceptionally rapid growth of these activities and the scale they have now reached, central banks and banking supervisors in particular are increasingly drawing attention to the risks they pose to the stability of the financial markets.

Overview

Off-balance-sheet activities

Nowadays, if reference is made to off-balance-sheet activities, the term is mostly understood to signify forward contracts in the broadest sense, and especially what are known as derivative (derived) contracts, such as financial swaps, futures and options,[1] which are often also designated as financial innovations, even though this term in fact covers a much broader range of products. Whereas, for instance, in the case of traditional forward foreign exchange transactions

Derivative transactions/ financial innovations

1 For explanatory notes on individual off-balance-sheet activities see the Annex at the end of this article

... foreign exchange or securities and payment of the equivalent have to be effected at maturity and hence a corresponding amount of liquidity is required, in the case of derivative transactions, financial assets or liabilities merely provide the basis for generating cash flows or offsetting payments.

The arbitrary combination of derivative underlying instruments and the derivation of hybrid products from them is quite customary, as is demonstrated by, for instance, options on financial swaps ("swaptions"), options on options, options on forward contracts, forward contracts on forward contracts or forward contracts on financial swaps. This leads not only to a profusion of products that can hardly be kept track of, but also to a higher degree of complexity, impeding the due calculation and management of positions and the assessment of the risk situation. Index contracts (in particular stock and interest rate index contracts) where a corresponding "basket", rather than individual financial assets or liabilities, is used as a reference variable and for portfolio management, have likewise long gained acceptance in practice. In addition, banks are increasingly becoming market players in the commodity futures markets, in particular the Anglo-American ones, thus entering a market which does not rank among their traditional fields of activity. Most recently, besides the contracts concluded between the counterparties direct, options that are evidenced by certificates (warrants) appear to be gaining ground. The various contracts are traded and settled either in standardised form on stock exchanges or "customised" in individual lots in the unregulated (over-the-counter – OTC) market, and hence are subject to widely differing legal and operational underlying conditions.

Off-balance-sheet activities in the broadest sense are basically nothing new to German banks. After all, guarantees, lines of credit, documentary credits and other traditional banking transactions, as well as what are known as subsidiary agreements and special clauses agreed for traditional banking business, such as termination rights, repurchase commitments, interest-rate-capping agreements and the like, are shown in bank balance sheets either not at all or only as contingency items "below the line". Even so, they exercise an impact on the banks' corresponding risk positions. Analysing them in formal legal terms, incidentally, often obscures the fact that they incorporate elements of options or forward contracts, similar to derivative transactions. This applies, for example, also to the securities loan and repurchase transactions which have recently become common in the German securities market. Inclusion, on the basis of material risk elements, of such transactions or transaction segments in determining positions would therefore be consistent.

Initially, German banks tended to be reluctant to embark on activities involving derivative products. These products can be used to hedge or run individual risk positions. They were designed with the idea of hedging[2] being the main consideration. These instruments permit more flexible asset and liability

management. They have helped to strengthen the soundness of financial institutions and thus of the financial markets. On the other hand, the instruments may also be used for speculative purposes,[3] which is obviously – fostered by the volatility of the markets – being done on a major scale, for the buoyant global growth of derivatives can no longer be ascribed mainly to a pent-up demand for hedging foreign exchange, interest rate and other exposures.

A common feature of all forward contracts is that they are concluded with little or no capital input, and therefore operate like levers (leverage effect). To the extent that the contracts give rise to open positions, the contracting parties are exposed to differing market price risks, such as foreign currency, interest rate, share price, index and commodity price risks. But even if positions are initially closed (hedged positions), losses may be incurred in the event of the default of a counterparty if positions that are then open again can be closed once more on worse terms only. Existing risks can be transferred to other market players by means of derivative transactions, and thus averted from the individual bank. But as far as the financial system as a whole is concerned, such risks have been eliminated only if they can be matched by the transferee counterparty by contrary risks. Nevertheless, the mere spreading of the risks among several other market participants may have a stabilising effect on the financial system. For the rest, the transactions mentioned call for specific risk assessment and capturing, tailored to their special characteristics, without which a responsible handling of transactions is not possible. Moreover, in proportion as the volume of off-balance-sheet activities increases, the informative value of a bank's balance sheet, as far as the bank's risk situation is concerned, decreases; the distribution of risks becomes generally less clear

The Deutsche Bundesbank and the Federal Banking Supervisory Office have closely monitored trends in more recent off-balance-sheet activities from the very outset. In order to enhance the transparency of transactions, and counteract the risks involved by means of appropriate regulations, data on financial futures contracts[4] were collected as a memo item already from January 1986 in the Principle Ia reports, and from mid-1986 financial swaps and forward securities transactions were included in the data collection. There were indications of such dynamic growth that it was necessary to limit the risks posed by the new activities. From October 1, 1990 the counterparty (replacement) risks contained in the contracts were therefore included in the risk assets to be backed by

Statistics collected since 1986

2 For example, the exchange risk posed by a foreign currency asset amounting to US$ 100 00 (long position) can be closed by concluding an offsetting "currency futures contract" if the latter incorporates the right to the delivery of likewise US$ 100 00 at a set price. Instead of delivery, an offsetting payment (payment of the difference) amounting to the difference between the contract price and the market price ruling on the settlement date may be agreed. While the bank must sell at current market rates the US$ 100 00 received in connection with the repayment of the loan, any exchange losses that might arise are offset by its claim under the futures contract for the difference to be offset

3 If there were no matching open position, the conclusion of a currency futures contract would give rise to an exchange rate exposure since the bank would be obliged to make an offsetting payment if exchange rate movements were unfavourable to it.

4 Data on the nominal amounts of interest rate, index, precious metal and currency futures contracts were requested

Capital backing and limitation since October 1, 1990

capital, in line with the Basle Capital Accord and in view of the EC Solvency Directive, which was to be implemented by January 1, 1993 anyway. A limit was set to market price risks in Principle Ia.[5] As not only interest rate and currency contracts, but also contracts involving other price risks, such as stock, index and commodity price contracts, are covered, virtually all new activities are subject to prudential capital requirements or limits. As far as risk limitation is concerned, German banking supervisors have thus at an early stage gone one step further than the international capital standards adopted until then. At the same time, the banks' risk awareness in respect of off-balance-sheet activities has been significantly sharpened, which has contributed to stabilising the markets.

The prudential returns concerning Principles I and Ia, supplemented by some banking statistics, provide the Deutsche Bundesbank and the Federal Banking Supervisory Office with relatively extensive insight into the types and volume of these activities. Admittedly, there are still no comprehensive statistics available to market players as well. Proposals by the Deutsche Bundesbank to the effect that disclosure in this field should be enhanced by increasing the information published in the banks' annual reports were rejected at the time by the banking industry; an opportunity to disclose risk concentrations at individual institutions to market players as well, as is widely done in the United States, for example, was thus wasted. Higher disclosure standards would enable market participants to assess counterparty activities more effectively and strengthen the market's self-regulating powers. The approaches to improving international statistics currently being discussed by central bank experts from G-10 countries with a view in particular to enhancing the soundness of financial systems could make a major contribution to increasing the transparency of these activities.

In the past, the Deutsche Bundesbank has commented on various occasions on recent developments in the financial markets and has also published some individual data.[6] Below, the data reported by the banks for the Monthly Balance Sheet Statistics and Principles I and Ia are presented in aggregated form as at the end of June 1993 (see in particular the tables in the Annex). This is intended to provide market players and other interested parties with an overview of the types and scale of the activities in question and to contribute to greater transparency in the German market.

Transparency by the publication of banking statistical and prudential data

Overview of the transactions

Sustained growth of off-balance-sheet activities

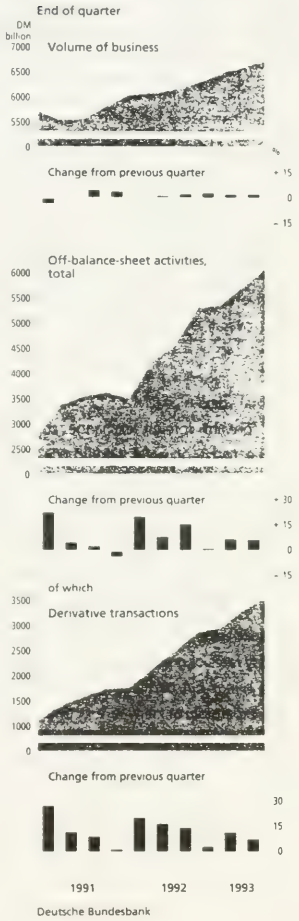
The statistics show that the growth of off-balance-sheet activities in general and of derivative products in particular, which has

5 See Deutsche Bundesbank, The new Principles I and Ia Concerning the Capital of Banks, Monthly Report, August 1990, page 39; the Principles were revised again as at January 1, 1993; see Deutsche Bundesbank, Principles Concerning the Capital and Liquidity of Credit Institutions, Monthly Report, March 1993, page 49

6 Deutsche Bundesbank, Innovation in international banking, Monthly Report, April 1986, page 25; Deutsche Bundesbank, New off-balance-sheet financial instruments and their implications for banks in the Federal Republic of Germany, Monthly Report, April 1987, page 23; Deutsche Bundesbank, Financial centre Germany: underlying conditions and recent developments, Monthly Report, March 1992, page 23

been evident since about the middle of the eighties and been extremely buoyant at times, is continuing unabated. Thus, both the total volume of such activities and the large variety of products and the number of banks playing in the market have increased continuously over the period under review, even if the rate of growth was not quite so marked in the last quarter of 1991 and in 1992. This expansion may be fuelled mainly by the general spread of the requisite product and market knowledge. On the other hand, it may have been the increased short-term volatility of prices in the exchange and stock markets and interest rate movements that made it seem advisable to some banks and other market players to manage their positions more flexibly, and often more cost-effectively, than is possible with on-balance-sheet transactions by engaging in derivative transactions. The associated broadening of the markets is basically welcome in view of the fact that this tends to cause market liquidity to increase. A large part of these activities is transacted "only" between banks and other financial institutions. To the extent that business in individual derivative products is confined to a few institutions acting as market makers, the viability of the market segment concerned could be adversely affected if extreme supply or demand conditions obtained. In the event of the collapse of a market segment, resultant disruptions might also spill over to neighbouring market segments – in particular, however, to the spot market. A broadening of the markets for derivative products is therefore in the interests of the overall stabilisation of the markets. But the more new products are tailored to the specific

German banks' off-balance-sheet activities and volume of business



needs of market players, the narrower the individual market will be.

Scale of off-balance-sheet activities almost equivalent to the total volume of business

In the aggregate, all major off-balance-sheet activities[7] had reached a total of DM 6,116 billion by the middle of this year, thus accounting for 90% of the volume of business of all German banks.[8] In terms of the volume of business of the 827 banks which engage in such activities, the share increases to no less than 113%. Almost all of the activities of some institutions with highly specialised business consist of off-balance-sheet operations. This illustrates the degree to which the informative value of balance sheets as a guide to the overall business of banks has been reduced.

Traditional forward foreign exchange and forward securities transactions account for 42% of all off-balance-sheet activities

At a total volume of DM 2,512 billion, traditional forward foreign exchange contracts continue to be of great significance, however, for German banks. If such contracts, as well as forward securities transactions, are left out of account, the volume of the remaining derivative off-balance-sheet activities, at a total of DM 3,580 billion, still makes up 53% of the volume of business of all German banks. An analysis of the average quarterly rates of growth of the activities concerned brings out particularly clearly the dynamic expansion of derivative activities over the past 2½ years. While on-balance-sheet transactions have grown at an average rate of only 1.7% and traditional forward foreign exchange and forward securities contracts by 4.9%, the growth rate of derivative activities was 12.5%, and thus over seven times that of on-balance-sheet business. Banks and their customers seem to have increasingly recognised the advantages of using derivative instruments, also in the light of profitability considerations.

For the individual categories of banks, the significance of the growth and scale of derivative activities differs. Thus, there was initially a marked gap between German big and regional banks and the branches of foreign banks, on the one hand, and the remaining sectors of the banking industry, on the other. Major factors in this connection were probably both the differences in the provision of these institutions with the necessary highly specialised staff and the differences in the pattern of customers' demand for banking services. While in the first few years of the "innovation wave" their lead in know-how made the domestic subsidiaries and branches of foreign, in particular Anglo-American, institutions pace-setters in the development of these instruments, German institutions have meanwhile been catching up. The regional institutions of the savings bank and credit cooperative sectors, too, have increasingly added derivative instruments to the range of their activities. Even primary institutions in these sectors of the banking industry are more and more involved in business with derivative products. Thus, 300 savings banks and credit cooperatives are now using derivative products. Transactions between the re-

... derivative activities ... as fast as ...

7 Forward foreign exchange contracts ... action, financial swaps, forward ... trade, forward rate agreements ... rights, etc. Figures are available ... relations the share of which after ... Cash-effective items.

8 By way of comparison, the figures for the end ... were DM 1,381 billion, 83% ... 1992: DM 1,534 billion, 58%.

gional and local institutions are apparently of particular importance in this connection, because – much as in the case of traditional liquidity adjustment – the regional institutions initially take over the primary institutions' positions in derivative instruments and then, if necessary, pass them on to the market in aggregated form. At 18 %, the market share of the overall savings bank and credit cooperative sector in all derivative operations is, however, still comparatively small.

Types of activities

Predominance of forward contracts, but large share of traditional forward foreign exchange and forward securities transactions

Among the individual types of off-balance-sheet activities, forward contracts, accounting for about 60 %, predominate in Germany. However, as mentioned before, this share is mainly attributable to traditional forward foreign exchange contracts. Excluding such contracts, the volume of the remaining derivative forward contracts (futures, forward rate agreements, forward contracts on swaps and the like) is DM 995 billion, that of option business DM 1,215 billion and that of financial swaps DM 1,370 billion (including foreign subsidiaries. DM 1,594 billion). About 90 % of the financial swaps are interest rate swaps. At the end of 1992 the global swap volume was some US$ 4,710 billion. German banks' share in this figure amounts to an estimated 10 %.[9] While the types of activities mentioned grew at different rates, they expanded continuously – albeit with some fluctuations. Over the past 2 ½ years the quarterly rate of growth of German banks' financial swaps has averaged 11%. Derivative forward contracts, by contrast, have risen at an average rate of 12 % and options by 16 %. Over the same period the number of German banks operating in the individual market sectors has increased more rapidly in the case of financial swaps, viz. from 200 to 342 institutions, and in the case of options from 153 to 269 institutions. The number of banks which contract derivative forward business has mounted slightly, from 112 to 125 institutions.

German banks' derivative transactions, compared with their volume of business

DM million, end of June 1993

Category of banks	Derivative transactions	Volume of business [1]	Derivative transactions as a percentage of the volume of business
Big banks	1,552,429	849,083	182 8
Regional banks	1,042,855	949,758	109 8
Foreign banks [2]	67,970	88,119	77.1
Private bankers	84,810	70,395	120 5
Regional giro institutions	555,252	1,218,684	45 6
Savings banks	21,752	1,283,994	1.7
Regional institutions of credit cooperatives	60,540	214,019	28 3
Credit cooperatives	3,424	728,702	0 5
Other categories of banks	190,536	1,364,504	14 0
Total	3,579,568	6,767,258	52 9

1 Including guarantees. — 2 Branches of enterprises domiciled in another country

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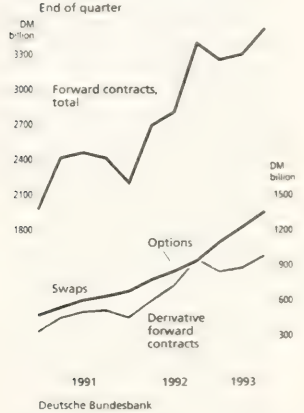
9 The swap volume of German banks is comparable to only a limited extent to the global volume, which was established by the International Swap Dealers Association (ISDA). Whereas the double-counting of contracts between ISDA members was eliminated from the ISDA statistics, this has not yet been done in the case of the German statistics. It is estimated that about 40 % of German banks' swap contracts have been concluded as part of interbank business, and thus have been reported by both counterparties. The German swap volume must therefore be adjusted accordingly to make it comparable to the ISDA statistics.

German banks' off-balance-sheet activities, by type of transaction

End of quarter



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The differing pace of growth of the activities is likely to owe much to their respective popularity and complexity. Recently, option business, in particular options evidenced by certificates (warrants), appears to be increasing in importance, even though this is not necessarily indicated by the growth of volumes. Whereas initially the greater part of options evidenced by certificates were introduced to the market in combination with bonds with options, and became tradable in the form of detached coupons, warrants have recently been issued direct and traded in the individual market segments of the German stock exchanges. Thus, the number of exchange-traded warrants available in the German market increased by 60 %, from not quite 900 at the end of June 1992 to over 1,400 at the end of June 1993.

Regarding the type of warrants, the circulation of currency warrants and interest rate warrants is rising sharply. Their number has more than doubled in each case over the past year, although the number of issuers has remained unchanged at about 25 institutions. Index warrants have also been gaining ground rapidly, growing by over 70 %. Stock warrants, by contrast, especially those in the form of call options, have declined slightly. In the light of the volatility in the exchange markets and of interest rate movements, a comparatively small number of banks apparently still sees earning potential in sales of options evidenced by certificates, viz. call options and put options. Option business is made more readily accessible to private investors by means of warrants, as these are handled by the stock exchanges in fairly small amounts.

In view of the complexity of, and the speculative elements in, these transactions, customer-oriented counselling by the banks is of particular significance. The option buyer must be aware of the fact that the acquisition of options does not make him/her the creditor of a deposit, but rather the holder of a right, the value of which depends on the movement of the underlying rates and prices. For the rest, private investors will probably be prepared to play in the market for warrants on a lasting basis only if market pricing is sufficiently transparent and the [illegible] determining factors are taken [illegible] tion in a market-related manner.

Exchange-traded futures [illegible] comparatively minor significance [illegible]

terms of their volume, despite the listing of such products on the DTB and other appropriate futures exchanges. The wider dissemination of exchange-traded contracts is obviously being impeded by the fact that such contracts cannot be used flexibly enough in institutions' risk management owing to their standardisation.

Currency-related contracts

The banks use off-balance-sheet transactions to differing degrees in the individual risk areas. Almost one-half of all off-balance-sheet activities is related to foreign currencies; over the past 2½ years such activities have expanded continuously, from DM 1,821 billion to DM 3,011 billion. As already mentioned, however, traditional forward foreign exchange contracts play a special role here. Currency futures are no doubt practically negligible. Currency options, by contrast, have almost trebled since the end of 1990, from DM 105 billion to DM 308 billion, but, at just over 10% of all off-balance-sheet foreign exchange transactions, their significance remains comparatively small. German banks have obviously tended to be reluctant to use derivative products to manage their foreign currency positions because the traditional forward exchange market is functioning well.

Large share of OTC transactions

A large part of off-balance-sheet foreign exchange business (traditional and derivative off-balance-sheet contracts) is transacted outside the stock exchange, i.e. in the OTC market, specifically, both between banks and between banks and non-banks. The characteristic feature of OTC business is that it is subject to less stringent legal and administrative requirements than exchange-traded contracts and that particular attention must therefore be paid to legal and settlement risks. The use of standardised contracts (known as "master agreements"), which take due account of the characteristics of different types of derivative contracts, can therefore help reduce risks. The netting clauses frequently agreed as part of such agreements are designed to reduce the gross volumes building up between two counterparties over time, and thus the counterparty risks they involve, to a single balance, at least whenever payment disruptions occur. The extent to which, apart from what are known as novation clauses[10] (which are everywhere recognised as being enforceable), other set-off agreements[11] will actually hold up in court if one party is wound up, is unclear as far as German or international insolvency law is concerned, and in the absence (to date) of any supreme court decisions.

Higher legal and administrative risks

Master agreements and netting arrangements

Balances must hold up in court in bankruptcy proceedings

Basically, the setting-up of multilateral and, in particular, multinational netting and clearing facilities is to be welcomed, because they

Netting and clearing facilities

10 Under what are known as "novation clauses", two counterparties agree to offset mutual claims and liabilities. Novation involves the adjustment or alteration of debt, with the netted claims and liabilities being legally discharged and replaced by new ones in the amount of the resultant balance

11 In this connection what are known as "close-out clauses" are of particular significance. These are an agreement between two counterparties stating that, in a particular event, frequently one which jeopardises the contractual relationship (e.g. default in payment, institution of bankruptcy proceedings and the like), the mutual contractual relationships are terminated and cleared. The resultant balance will be settled. It is not yet clear to what extent such set-offs are legally binding under German law

enable the counterparty risks to be reduced and payments to be streamlined However, the question arises as to the legal enforceability of balances that are generated, particularly in the case of facilities in which a number of countries participate, since the netting procedures must be compatible with all the legal systems involved. The more legal systems are affected, the more difficult it will be to find a satisfactory solution. It would be in the best interests of all financial markets if international insolvency law were harmonised as soon as possible and national regulations were brought into line with recent developments in banking. For the rest, as the risk of a domino effect among participants is particularly serious in the case of multilateral clearing facilities, such clearing systems should be designed in such a way as to take special account of credit and liquidity risks.

Derivative currency contracts on balance have the intended effect of hedging

The inclusion of off-balance-sheet derivative currency contracts from October 1, 1990 in the calculation of open exchange positions under Principle Ia has led to a marked decline in the banks' reported open positions. Thus, the banks' average ratio dropped from 7.8% in 1989, via 7.4% in 1990 and 5.0% in 1991, to 5.1% in 1992. This suprising result shows that on balance the contracts mentioned have been used to close otherwise open exchange positions, i.e. have tended to be used as hedging devices. The inclusion of foreign exchange contracts in Principle I ("counterparty risk")[12] is tying up liable capital of banks in the total amount of DM 1,2 billion.[13]

and tie up DM [illegible] of liable capital

Interest-rate-related contracts

At DM 3,181 billion, interest-rate-related contracts, which, owing to their interest rate component, also include financial swaps, only slightly exceed the volume of currency-related off-balance-sheet activities. The bulk of these activities consist of financial swaps (DM 1,370 billion), forward rate agreements (DM 693 billion) and interest rate options (DM 801 billion). Although the volume of interest rate futures, which include, in particular, the DM futures contracts traded on the Deutsche Terminbörse and the London International Financial Futures Exchange (LIFFE), has more than trebled since 1990, rising from DM 39 billion to DM 129 billion, they still tend to play a rather insignificant role, accounting for some 4% of off-balance-sheet interest-rate-related contracts. Interest rate options, which also encompass agreements limiting the movement of interest rates (caps, floors, collars and the like), more than quadrupled over the same period, soaring from DM 179 billion to DM 801 billion. They now account for 27% of all off-balance-sheet interest-rate-related activities Once again, interest rate options evidenced by cer-

Mainly financial swaps, forward rate agreement[illegible]

12 In addition to foreign exchange contracts (contract involving other price risks are included with the same weights and are therefore reflected in the calculation of the capital tied up Given their small volume, however, the latter are insignificant

13 Because of a special feature of the counterparty risk associated with forward contracts, i.e. the fact that the [illegible] underlying principal but only the replacement risk in the event of a default of the counterparty, the contracts [illegible] terparty weight (maximum weight 50%) (for details see Deutsche Bundesbank, The new [illegible] cerning the Capital of Banks, Monthly Report, August 1990, page 39

tificates (warrants) are of some importance in this connection, too; since June 1992 their number has more than doubled, from not quite 100 to about 230, while the number of issuers (about 25) has increased only slightly.

Not covered by the statistics are securities loans and repurchase agreements involving coupon securities, which, having the characteristics of forward and option contracts, have been used increasingly for the banks' interest rate management of late.

Derivative interest-rate-related activities account for almost one-half of the volume of business

If interest-rate-related off-balance-sheet activities are compared with the volume of business of all banks, derivative interest-rate-related contracts account for 47 %. It is not apparent from the available data to what extent such contracts are generally used for matching interest rate exposures resulting from on-balance-sheet business or for running open interest rate positions. Banks which actively use derivative interest-rate-related contracts for managing their interest rate exposure are likely, however, to tend to have advantages in terms of potential earnings over those institutions which must rely solely on less flexible on-balance-sheet activities.

Since October 1, 1990, interest rate futures and interest rate options have been limited by Principle Ia. Only a few credit institutions are taking advantage of the option of offsetting open positions deriving from these activities against open positions arising from on-balance-sheet transactions ("back-hedging"). The advantages of such offsetting operations apparently fail to outweigh the administrative costs resulting from all interest-rate-related business having to be geared to the fixed-interest-rate balance sheet prescribed by the supervisory authorities – in addition to other in-house interest rate management requirements. Initial fears on the part of the banking industry about the limit for these activities being too low and the Deutsche Terminbörse possibly being impeded have, in the aggregate, not been borne out. This is evident from the average utilisation of the limits of 1.6 % (maximum permissible utilisation: 14 %). The counterparty risks associated with all interest-rate-related contracts are tying up DM 0.7 billion of the banks' liable capital (Principle I).

No impediment of the DTB

Low capital absorption

Transactions involving other price risks

Equity/index contracts

Transactions involving other price risks, which substantially comprise stock and index futures and stock and index options, continue to play a comparatively minor role, at DM 115 billion (5 % of the volume of business of the banks concerned). This may owe something to the fact that the share of equity-related transactions in German universal banks' total banking business is likewise traditionally not very large. Even so, the volume of index contracts in particular, at DM 88 billion, is now more than 14 times that of 1990 (DM 6 billion). This shows that share portfolio management techniques have been developed further of late and increasingly also include more complex products. The 7 % limit permissible under Principle Ia for these transactions is utilised by the banks at an average rate of 0.6 %; this suggests that – with a few exceptions – the banks are able to

keep their relevant positions within the limits set, and that the relevant market activities are not being impeded.

Commodity contracts

Of late there has been evidence of some banks in Germany seeking to extend their derivative business to include commodity-price-related products (commodity contracts) The reason given for this is that there was a corresponding demand from customers in conjunction with traditional lending. Such contracts involve the incurrence of payment obligations, the amount of which depends on the movement of a particular commodity price, such as the oil or gas price. More recently, the hedging needs of the agricultural sector of the economy have also been given as a reason, and there have been calls for a German commodity exchange to be set up. Moreover, it is stated that the extension of these activities is an interesting proposition in terms of earnings.

The banking supervisory authorities view this trend with reservations and permit such contracts only if they do not result in open positions for banks. As the payment obligations are linked to particular commodity prices, such transactions between residents may contravene section 3 of the Currency Act. Extension of the scope of derivative products to include commodity contracts also raises the question of whether banks would not in fact thereby relinquish their traditional function of being financial intermediaries and expose themselves to unfamiliar risks that are more difficult to manage. The debate on these issues in the international banking supervisory bodies has already commenced.

Conclusions

All in all, the figures presented here show that German banks have on the whole joined in the global innovation process that is currently under way. The German banking supervisory authorities responded at an early stage, seeking to take due account, in an adequate regulatory manner, of the major risks resulting for the credit institutions, for the sake of protecting creditors and the system. Moreover, the new regulations are likely to have increased the banks' risk awareness. The measurement and limitation of the risks covered, and hence the adequacy of capital standards, are under constant review in the light of changing market conditions. Thus, the question is already being asked of whether the potential risks deriving from particular off-balance-sheet activities are adequately covered by prudential capital requirements.

Regarding the question of capital adequacy it should, moreover, be borne in mind that other risks involved in these transactions, such as operational risks, performance risks, legal risks, liquidity risks and the like, were not taken into consideration when the relevant weightings for the counterparty and market risks were set, but have to be absorbed as well, if necessary, by the banks' available capital. This may be one of the reasons why banks are in some cases maintaining higher capital levels for individual transactions than those required by the banking supervisory authorities; moreover, in counting these transactions towards the

Capital must also cover the risks that have not been taken into account

counterparty limits, they also, where necessary, apply higher than the actual amounts.

Capital backing for open positions, too, from 1995

By 1995 the EC Capital Adequacy Directive must be translated into German law, so that uniform capital requirements will then apply to banks and securities firms throughout the EC. Capital backing will then be required for open positions, too, including those resulting from off-balance-sheet activities, in the various market risk segments. In addition, derivatives will thenceforth, at the latest, be included in the large exposures regulations.

International harmonisation of market risk regulations required

In view of the globalisation of the markets, an internationally coordinated supervisory regulation of off-balance-sheet activities extending beyond the EC countries will be of major importance. The 1988 Basle Capital Accord for internationally operating credit institutions, which has been adopted by many countries throughout the world, has already made a major contribution to covering credit risk. A corresponding arrangement is planned for market risks, including off-balance-sheet activities. Of particular significance in this connection is that such regulations will in future apply uniformly to banks and securities firms, in order to stabilise markets and "level the playing field". The inclusion of financial institutions to which derivative activities have been transferred in regulations to be applied on a consolidated basis is likewise necessary. The Basle papers, on which the banks' comments have now been invited, provide an appropriate basis for this. Despite many joint discussions, it is not yet clear, however, whether the authorities responsible for supervising securities firms will endorse the project.

Prudential capital requirements only cover the risks involved in normal market operations. In the event (which cannot be ruled out) that markets are exposed to exceptional disruptions and that market players are threatened with exceptionally heavy losses in this context, other measures of risk provisioning are essential. While market participants will be unable to provide for every conceivable worst-case scenario, for example the complete collapse of specific market segments, their control and risk limitation techniques should not only be geared to "periods of fine weather". For example, the banks themselves should first of all do all they can to capture and limit these activities in their internal accounting systems, so as to take due account of the risks involved. It would be disastrous for the individual institution, and possibly for the financial system as a whole, if market players succumbed to an illusion of security because of inadequate risk control, even provided that the markets were functioning smoothly. It is therefore of paramount importance to set up an effective internal control and information system tailored to the specific features of the transactions – a system which includes the daily valuation of positions. Clear organisational and responsibility patterns, well-trained staff and adequate technical and personnel back-up systems are also indispensable. Banking supervisors will have to specify as soon as possible minimum standards such as have been applied for some while to traditional foreign exchange and securities transactions, and whose basic

Effective in-house risk capturing system required

principles (for instance separation of functions, realistic prices) could well also be applied to derivative transactions. Finally, it is also imperative for the management of every bank operating in these markets to be able to assess correctly the risks associated with these activities and to monitor responsibly the bank's position.

Greater transparency

Extension of the disclosure requirements for the transactions mentioned as part of the annual accounts, and inclusion of these transactions in the reports pursuant to section 14 of the Banking Act should be initiated as soon as possible. Risk concentrations in the hands of individual market players could thus be more easily identified and disciplining market processes fostered since, in particular, risk premiums could be based on a more accurate credit rating of the individual market participants. At the same time, the coverage of the existing statistical reports could be extended; the publication of aggregated figures would improve the assessment of market trends

Large volumes owing to double-counting of individual components and autonomous creation processes

For the rest, the large volumes of these activities give cause for some concern. They result, on the one hand, from the fact that price or risk elements (such as interest rate, currency, credit risk) traditionally included in individual types of banking business (e.g. lending, deposit business) are separated out for practical purposes and each time the underlying amount is captured separately, while the underlying transaction continues to appear in the books. On the other hand, there is an expansion, either on the basis of such synthetised risk elements or through pure "creation processes", of derivative transactions, in particular – an expansion which is virtually not curbed by the minimum liquidity requirements, the only constraints being expense and income considerations.

A major reason for the expansion of the volume of these activities is probably that, in order to close positions arising from existing contracts, these cannot – as is basically conceivable and, where securitised items are concerned, customary in the case of on-balance-sheet transactions – be transferred to a secondary market, but new (specifically, matching) contracts must be concluded. Depending on the institutions' trading activities, exceptionally large gross amounts may thus build up. These are not then related directly to any real transaction-based orders of magnitude, and in fact cannot be assessed by means of traditional macroeconomic criteria.

The measurement of derivative transactions in terms of the principal amounts of the underlying transactions is often criticised by market players, who propose basing such calculations merely on replacement costs, perhaps even netted for each counterparty or expressed in terms of the global net position, if appropriate. Quite apart from the fact that, when the statistics were first collected, the market players themselves had suggested taking the principal amounts of the underlying transactions as a basis, it would probably be very difficult to measure the risk costs uniformly and objectively. For the rest, it is essential, in the interests of a uniform measuring of the market volumes of the spot and forward markets, to capture forward con-

tracts, too, in terms of the underlying principal amount. Only in this way will it be possible to say, for example, how the volumes generated in the forward markets will affect the spot markets.

Interlinkage of markets

It should also be borne in mind that the individual market segments for derivative products are mutually interlinked as well as linked to the relevant spot markets. Price differences in the individual segments are exploited comparatively soon by adjustment operations (arbitraging) on the part of market participants and thus eliminated. State-of-the-art global telecommunication and data processing technology expedites such operations to a degree undreamt of in earlier years. At the same time, the market volume which affects prices can be dramatically increased by the use of derivative products, such as options, with no major investment of capital. Price movements triggered by derivative markets can therefore spread very rapidly and reinforce the relevant price swings in the spot markets.

Disruptions of spot markets cannot be ruled out

Federal bonds provide a good example of the close interlinkage between the spot and forward markets. Nowadays, Bund futures quotations have a not inconsiderable short-term impact on spot prices. However, the speculative use of derivative transactions is likely to have a chance of durably influencing rates and prices only if the latter have failed to reflect real market conditions correctly. Pricing that is consistent with market conditions in all market segments is therefore of particular importance. Oligopolistic market structures, such as obtain in some international OTC market segments, do not encourage market-related pricing.

Foreign exchange markets

One cannot definitely say to what extent derivative transactions have been a factor in the recent turbulence in the exchange markets. There is a clear linkage, through arbitraging, between currency options and currency futures, on the one hand, and traditional foreign exchange transactions, on the other. However, as long as the volume transacted in the traditional foreign exchange markets exceeds that traded in the futures and options markets, these markets are unlikely to cause any lasting disruption. If the futures and options markets continue to grow, this situation might well change and raise the question of how far the autonomous creation processes associated with off-balance-sheet activities, like the money creation process, should be restrained after all.

Of late, there have therefore been increasing calls for a stricter control of the foreign exchange markets in the broadest sense, in particular so as to enable speculative exchange rate movements to be countered more effectively. Suggestions range from imposing taxes on to limiting or imposing minimum reserve requirements on such transactions. Raising capital costs for control purposes has also been suggested in various quarters. Quite apart from the fact that the freedom of the financial markets, as a prerequisite of their efficiency, is a priority objective of global deregulation efforts, such intervention would immediately lead to the transactions being shifted to non-bank market players and/or offshore centres. That

would be an outcome which no one can wish to see, not least in the interests of the stability and transparency of the financial markets

Systemic risk

The question of whether derivative instruments imply additional risks to the soundness of the international financial system has already been the subject of many discussions. It is agreed that the growing use of derivative instruments in strategies covering many market segments has reinforced the integration of the financial markets and hence increased their vulnerability. In the event of the failure of a major market player or serious market disruptions, one cannot be sure whether hedging or replacement contracts will still be available in the derivative markets. Once the spot markets, too, are no longer sufficiently liquid, this may trigger chain reactions and jeopardise the financial system as a whole. Developments of this kind can be prevented only if all those concerned are aware not only of the scope for using, but also in particular of the risks posed by, off-balance-sheet activities, and proceed with the necessary caution.

Annex

Explanatory notes

Cap

A limit on the upward movement of an interest rate, e.g. a common feature of floating-rate notes which have an agreed maximum rate

Collar

The agreement of an upper limit ("cap") and a lower limit ("floor") on a coupon rate

Derivative instruments

Financial market instruments derived from some other financial product (underlying) (such as swaps, financial futures, options), can be used for hedging open positions, arbitraging or speculating. The value or price of the derivative instrument is influenced by the value or price of the underlying financial product

Financial futures

Generic term for exchange-traded financial futures contracts based, in particular, on interest-bearing securities or interest rates (interest rate futures), indices (stock index futures, interest rate index futures) or foreign currencies (currency futures). The contractual agreement normally provides for a specific (standardised) quantity of the underlying instrument to be bought (long position) or sold (short position) on a specific future date (delivery date) at a price set on the contract date. Both counterparties enter into a binding commitment to make or take delivery. financial futures contracts do not normally involve physical delivery (which, incidentally, would not be possible in the case of index futures), but rather payment of the difference between the market price of the underlying instrument and the contract price. Positions are squared before maturity by contracting offsetting transactions

Floor

A limit on the downward movement of an interest rate, e.g. a common feature of floating-rate notes which have an agreed minimum rate

Forward rate agreement (FRA)

The agreement (which is not exchange-traded) of an interest rate relating to a specified (notional) principal

amount to be lent or borrowed in the future. A hedging device protecting against a future fall in interest rates in the case of lending, and against a future rise in interest rates in the case of borrowing.

Option

The right, but not the obligation, to buy (call option) or sell (put option) a set quantity of an underlying either on a set date (European option) or during a set period (US option) at a pre-set price (exercise price, striking price or strike price). The underlying may be cash market instruments such as shares (stock options), stock indices (stock index options), fixed interest securities (interest rate options), foreign currencies (currency options), or futures (futures options), financial swaps (swaptions) or again options (options on options). Rather like futures, options may be used as a hedging device or for speculating. Prices and positions in respect of options are calculated by means of complex mathematical formulas (option-pricing models). Options are traded in standardised form on stock exchanges or in "customised" form over the counter (OTC).

Warrants

A fungible security evidencing an option. Issue either attached to bonds (bonds with warrants), where the option right is usually evidenced by a detachable certificate, or in the form of "naked warrants", for which usually a collective certificate evidencing the total amount of the warrant issue is deposited with the Deutscher Kassenverein.

Financial swaps

An agreement between two counterparties on the exchange of flows of payments. The commonest forms are interest rate swaps, whereby floating-rate interest payments are exchanged for fixed-rate interest payments, and currency swaps (exchange of one currency for another, including the associated interest payment obligations). Originally, swaps were closely linked to capital-market transactions, i.e. newly created liabilities provided the basis for swaps (purpose: exploitation of comparative advantages in individual market segments, deriving from differences in market access or access restrictions), in the wake of the development of the markets, increasingly used also for restructuring existing liabilities. Banks are involved in swap transactions by acting either purely as brokers (introducing two swap partners to each other, no risk involved for the bank) or as intermediaries (being a counterparty in separate swaps with two other parties, bank bears credit and position risks).

Swaption

An option to arrange a financial swap.

Securities loan

The temporary transfer of ownership of securities by a lender to a borrower, with the borrower undertaking to retransfer securities of identical type and quality on the expiry of the borrowing period. The borrower pays the lender a fee for the temporary potential use. The securities loan enables the lender to enhance the return on his portfolio (which is geared to a medium or longer-term strategy), while the borrower is able to bridge commitments to deliver arising from spot transactions or settle speculative short sales, where the commitment to return the securities borrowed is discharged by delivery from forward and spot transactions maturing at a later date.

The tables accompanying this article appear on page 63.

German banks' off-balance-sheet activities *

DM billion

Period	Total	Financial swaps [1]				Forward foreign exchange transactions [2]		
		Total	Currency swaps	Interest rate swaps	Cross-currency swaps	Total	Delivery claims	Delivery commitments
	End of							
1986	875,605	53,164	4,737	33,560	14,867	810,560	407,149	403,411
1987	1,164,603	115,055	8,907	83,068	23,080	995,727	494,988	500,739
1988	1,615,714	203,113	13,551	154,847	34,715	1,274,901	631,329	643,572
1989	2,227,034	305,402	18,026	236,357	51,019	1,571,835	769,993	801,842
1990	2,768,048	483,451	25,213	399,159	59,079	1,631,810	795,211	836,599
1991 Mar	3,399,594	550,498	30,014	454,259	66,225	1,951,743	951,304	1,000,439
June	3,566,096	614,365	32,662	507,880	73,823	1,942,928	949,032	993,896
Sep	3,656,837	645,980	36,423	533,014	76,543	1,878,107	920,345	957,762
Dec.	3,533,627	688,834	38,653	570,072	80,109	1,735,545	843,941	891,604
1992 Mar	4,248,435	787,381	43,196	653,757	90,428	2,084,917	1,017,553	1,067,364
June	4,597,040	859,135	48,472	718,264	92,399	2,068,487	1,018,371	1,050,116
Sep	5,324,296	949,421	55,531	786,008	107,882	2,430,829	1,204,108	1,226,721
Dec.	5,380,067	1,107,867	68,281	933,637	105,949	2,397,956	1,179,740	1,218,216
1993 Mar	5,745,606	1,235,938	65,609	1,052,705	117,624	2,402,528	1,179,214	1,223,314
June	6,116,228	1,369,564	65,142	1,178,720	125,702	2,511,772	1,231,726	1,280,046
	Changes							
1987	+ 288,998	+ 61,891	+ 4,170	+ 49,508	+ 8,213	+ 185,167	+ 87,839	+ 97,328
1988	+ 451,111	+ 88,058	+ 4,644	+ 71,779	+ 11,635	+ 279,174	+ 136,341	+ 142,833
1989	+ 611,320	+ 102,289	+ 4,475	+ 81,510	+ 16,304	+ 296,934	+ 138,664	+ 158,270
1990	+ 541,014	+ 178,049	+ 7,187	+ 162,802	+ 8,060	+ 59,975	+ 25,218	+ 34,757
1991 Mar.	+ 631,546	+ 67,047	+ 4,801	+ 55,100	+ 7,146	+ 319,933	+ 156,093	+ 163,840
June	+ 166,502	+ 63,867	+ 2,648	+ 53,621	+ 7,598	− 8,815	− 2,272	− 6,543
Sep.	+ 90,741	+ 31,615	+ 3,761	+ 25,134	+ 2,720	− 64,821	− 28,687	− 36,134
Dec.	− 123,210	+ 42,854	+ 2,230	+ 37,058	+ 3,566	− 142,562	− 76,404	− 66,158
1992 Mar.	+ 714,808	+ 98,547	+ 4,543	+ 83,685	+ 10,319	+ 349,372	+ 173,612	+ 175,760
June	+ 348,605	+ 71,754	+ 5,276	+ 64,507	+ 1,971	− 16,430	+ 818	− 17,248
Sep.	+ 727,256	+ 90,286	+ 7,059	+ 67,744	+ 15,483	+ 362,342	+ 185,737	+ 176,605
Dec.	+ 55,771	+ 158,446	+ 12,750	+ 147,629	− 1,933	− 32,873	− 24,368	− 8,505
1993 Mar.	+ 365,539	+ 128,071	− 2,672	+ 119,068	+ 11,675	+ 4,572	− 526	+ 5,098
June	+ 370,622	+ 133,626	− 467	+ 126,015	+ 8,078	+ 109,244	+ 52,512	+ 56,732

* Domestic credit institutions, including their foreign branches but excluding their foreign subsidiaries. — 1 Deviations from Table IV.6 "Off-balance-sheet activities" in the Statistical Section of the Monthly Report of the Deutsche Bundesbank are due to differences in coverage. — 2 Including transactions in precious metals, whose share in the sum total of transactions in foreign exchange and precious metals is less than 1%.

Deutsche Bundesbank

German banks' off-balance-sheet activities, cont'd *

DM million

Period	Currency options 2					Interest rate-related forward contracts			
		Option-writer positions		Option rights			Forward transactions in fixed interest securities 1		
	Total	Delivery claims	Delivery commitments	Delivery claims	Delivery commitments	Total	Delivery claims	Delivery commitments	Forward forward deposits 3
	End of								
1986	2,728	1,446	1,282	.	.	9,153	1,687	4,735	.
1987	9,386	3,123	6,263	.	.	44,435	2,566	5,225	.
1988	18,606	7,211	11,395	.	.	119,094	1,766	5,352	.
1989	43,975	15,976	27,999	.	.	305,822	903	4,294	.
1990	104,802	26,156	26,462	33,182	19,002	352,495	2,208	8,827	2,666
1991 Mar.	161,713	40,748	37,798	47,692	35,335	471,458	3,009	7,310	4,770
June	167,360	46,244	38,908	45,538	36,670	525,540	5,174	8,352	6,525
Sep.	158,039	39,638	39,844	42,676	35,881	543,422	6,149	12,954	9,816
Dec.	148,756	36,189	37,133	43,691	31,743	473,739	3,521	7,456	7,374
1992 Mar.	157,824	41,627	35,621	42,036	38,540	609,043	4,922	5,554	7,684
June	214,273	50,147	50,004	60,074	54,048	740,168	3,960	6,871	5,479
Sep.	227,607	54,333	57,067	63,743	52,464	967,762	3,260	6,162	5,559
Dec.	226,185	56,600	47,075	70,850	51,660	858,004	2,234	5,415	10,433
1993 Mar.	272,536	65,886	62,868	80,201	63,581	894,718	3,763	14,025	74,057
June	308,235	82,560	67,410	83,658	74,607	1,010,482	4,524	20,364	7,161
	Changes								
1987	+ 6,658	+ 1,677	+ 4,981	.	.	+ 35,282	+ 879	+ 490	.
1988	+ 9,220	+ 4,088	+ 5,132	.	.	+ 74,659	– 800	+ 127	.
1989	+ 25,369	+ 8,765	+ 16,604	.	.	+ 186,728	– 863	– 1,058	.
1990	+ 60,827	+ 10,180	– 1,537	.	.	+ 46,673	+ 1,305	+ 4,533	.
1991 Mar.	+ 56,911	+ 14,732	+ 11,336	+ 14,510	+ 16,333	+ 118,963	+ 801	– 1,517	+ 2,104
June	+ 5,647	+ 5,356	+ 1,110	– 2,154	+ 1,335	+ 54,082	+ 2,165	+ 1 042	+ 1,755
Sep.	– 9,321	– 6,606	+ 936	– 2,862	– 789	+ 17,882	+ 975	+ 4,602	+ 3,291
Dec.	– 9,283	– 3,449	– 2,711	+ 1,015	– 4,138	– 69,683	– 2,628	– 5,498	– 2,442
1992 Mar.	+ 9,068	+ 5,438	– 1,512	– 1,655	+ 6,797	+ 135,304	+ 1,401	– 1,902	+ 310
June	+ 56,449	+ 8,520	+ 14,383	+ 18,038	+ 15,508	+ 131,125	– 962	+ 1,317	– 2,205
Sep.	+ 13,334	+ 4,186	+ 7,063	+ 3,669	– 1,584	+ 227,594	– 700	– 709	+ 80
Dec.	– 1,422	+ 2,267	– 9,992	+ 7,107	– 804	– 109,758	– 1,026	– ,747	+ 4,874
1993 Mar.	+ 46,351	+ 9,286	+ 15,793	+ 9,351	+ 11,921	+ 36,714	+ 1,529	+ 8,610	+ 63,624
June	+ 35,699	+ 16,674	+ 4 542	+ 3 457	+ 11,026	+ 115,764	+ 761	+ 6,339	– 66,896

Footnotes * – 2 See p. 63. — 3 A forward deposit is a commitment by a credit institution to place or take in a forward deposit of a set maturity at a set rate on a set date in the future. — 4 Until 1989 including interest rate futures. — 5 Spot-deal-related interest rate options are options where the option holder, in the event of the option being exercised, may request the option-writer to deliver or take an interest-bearing asset. — 6 Forward-deal-related interest rate options are options where the option holder, in the event of the

Forward rate agreements [4]	Interest rate futures	Forward swaps	Interest rate options: Total	Option-writer positions arising from: Spot-deal-related interest rate options [5]	Forward deal-related interest rate options [6]	Swap options (swaptions)	Option rights: Asset-side interest rate options [7]	Liability-side interest rate options [8]	Period
								End of	
2,731	.	.	.	.	.	.	.	.	1986
36,644	.	.	.	.	.	.	.	.	1987
111,976	.	.	.	.	.	.	.	.	1988
300,625	.	.	.	.	.	.	.	.	1989
289,897	39,345	9,552	178,721	65,420	19,465	13,500	35,524	44,812	1990
398,451	47,644	10,274	235,949	80,446	29,436	14,825	44,137	67,105	1991 Mar.
436,629	59,978	8,882	288,554	90,435	37,264	21,349	70,810	68,696	June
435,045	64,699	14,759	345,074	118,869	44,323	24,792	67,407	89,683	Sep.
378,493	60,238	16,657	423,207	142,957	54,414	31,707	82,844	111,285	Dec.
475,654	92,021	23,208	495,856	173,602	67,672	38,424	95,076	121,082	1992 Mar.
598,823	98,878	26,157	567,942	198,747	55,605	46,714	127,190	139,686	June
796,979	114,599	41,203	610,605	227,228	56,163	48,505	140,819	137,890	Sep.
702,578	106,722	30,622	650,593	259,503	56,941	52,026	126,063	156,060	Dec.
639,248	118,605	45,020	774,739	292,239	75,703	58,455	141,573	206,769	1993 Mar.
693,027	129,334	156,072	800,773	297,080	68,366	68,068	165,435	201,824	June
								Changes	
+ 33,913	.	.	.	.	.	.	.	.	1987
+ 75,332	.	.	.	.	.	.	.	.	1988
+ 188,649	.	.	.	.	.	.	.	.	1989
– 10,728	.	.	.	.	.	.	.	.	1990
+ 108,554	+ 8,299	+ 722	+ 57,228	+ 15,026	+ 9,971	+ 1,325	+ 8,613	+ 22,293	1991 Mar.
+ 38,178	+ 12,334	– 1,392	+ 52,605	+ 9,989	+ 7,828	+ 6,524	+ 26,673	+ 1,591	June
– 1,584	+ 4,721	+ 5,877	+ 56,520	+ 28,434	+ 7,059	+ 3,443	– 3,403	+ 20,987	Sep.
– 56,552	– 4,461	+ 1,898	+ 78,133	+ 24,088	+ 10,091	+ 6,915	+ 15,437	+ 21,602	Dec.
+ 97,161	+ 31,783	+ 6,551	+ 72,649	+ 30,645	+ 13,258	+ 6,717	+ 12,232	+ 9,797	1992 Mar.
+ 123,169	+ 6,857	+ 2,949	+ 72,086	+ 25,145	– 12,067	+ 8,290	+ 32,114	+ 18,604	June
+ 198,156	+ 15,721	+ 15,046	+ 42,663	+ 28,481	+ 558	+ 1,791	+ 13,629	– 1,796	Sep.
– 94,401	– 7,877	– 10,581	+ 39,988	+ 32,275	+ 778	+ 3,521	– 14,756	+ 18,170	Dec.
– 63,330	+ 11,883	+ 14,398	+ 124,146	+ 32,736	+ 18,762	+ 6,429	+ 15,510	+ 50,709	1993 Mar.
+ 53,779	+ 10,729	+ 111,052	+ 26,034	+ 4,841	– 7,337	+ 9,613	+ 23,862	– 4,945	June

option being exercised, has a right to the conclusion of an interest rate forward contract. — 7 Asset-side interest rate options are options where the option holder, in the event of the option being exercised, is entitled to acquire or have created an interest-bearing asset (e.g. Federal bonds, claim). — 8 Liability-side interest rate options are options where the option holder, in the event of the option being exercised, is entitled to acquire or have created an interest-bearing liability (e.g. deposit, securities issue).

German banks' off-balance-sheet activities, cont'd *

DM million

Period	Share futures			Share options				
					Option-writer positions		Option rights	
	Total	Delivery claims	Delivery commitments	Total	Call options	Put options	Call options	Put options
	End of							
1986	.	.	.	.	.	.	.	.
1987	.	.	.	.	.	.	.	.
1988	.	.	.	.	.	.	.	.
1989	.	.	.	.	.	.	.	.
1990	228	11	217	10,493	4,787	1,227	3,547	932
1991 Mar.	74	31	43	17,764	6,970	2,926	4,368	3,500
June	151	13	138	13,824	5,906	1,835	3,592	2,491
Sep.	181	27	154	16,886	5,804	3,382	4,273	3,427
Dec.	155	11	144	13,176	4,206	2,615	3,453	2,902
1992 Mar.	232	12	220	21,870	7,238	3,251	6,658	4,723
June	317	47	270	23,259	7,271	4,580	6,286	5,122
Sep.	825	25	800	20,869	6,583	4,071	6,054	4,161
Dec.	218	–	218	18,069	6,750	2,524	5,765	3,030
1993 Mar.	360	124	236	25,479	9,015	3,307	8,725	4,432
June	390	24	366	27,472	9,753	2,975	10,372	4,372
	Changes							
1987	.	.	.	.	.	.	.	.
1988	.	.	.	.	.	.	.	.
1989	.	.	.	.	.	.	.	.
1990	.	.	.	.	.	.	.	.
1991 Mar.	– 154	+ 20	– 174	+ 7,271	+ 2,183	+ 1,699	+ 821	+ 2,568
June	+ 77	– 18	+ 95	– 3,940	– 1,064	– 1,091	– 776	– 1,009
Sep.	+ 30	+ 14	+ 16	+ 3,062	– 102	+ 1,547	+ 681	+ 936
Dec.	– 26	– 16	– 10	– 3,710	– 1,598	– 767	– 820	– 525
1992 Mar.	+ 77	+ 1	+ 76	+ 8,694	+ 3,032	+ 636	+ 3,205	+ 1,821
June	+ 85	+ 35	+ 50	+ 1,389	+ 33	+ 1,329	– 372	+ 399
Sep.	+ 508	– 22	+ 530	– 2,390	– 688	– 509	– 232	– 961
Dec.	– 607	– 25	– 582	– 2,800	+ 167	– 1,547	– 289	– 1,131
1993 Mar.	+ 142	+ 124	+ 18	+ 7,410	+ 2,265	+ 783	+ 2,960	+ 1,402
June	+ 30	– 100	+ 130	+ 1,993	+ 738	– 332	+ 1,647	– 60

For footnotes see page 63.

Deutsche Bundesbank

Index futures			Index options					
				Option-writer positions		Option rights		
Total	Delivery claims	Delivery commitments	Total	Call options	Put options	Call options	Put options	Period
							End of	
.	.	.	.	.	.	.	.	1986
.	.	.	.	.	.	.	.	1987
.	.	.	.	.	.	.	.	1988
.	.	.	.	.	.	.	.	1989
685	296	389	5,363	1,249	1,491	1,048	1,575	1990
2,332	1,103	1,229	8,063	1,543	2,485	1,412	2,623	1991 Mar.
1,719	624	1,095	11,655	2,161	4,062	1,970	3,462	June
2,383	1,008	1,375	66,765	6,967	11,062	7,042	41,694	Sep.
2,938	1,255	1,683	47,277	8,772	14,823	9,027	14,655	Dec.
8,201	3,479	4,722	83,111	17,511	24,599	16,244	24,757	1992 Mar.
8,800	3,930	4,870	114,659	24,185	29,888	23,543	37,043	June
4,276	1,794	2,482	112,102	28,589	32,858	21,422	29,233	Sep.
6,495	2,925	3,570	114,680	32,677	37,437	19,738	24,828	Dec.
11,928	2,985	8,943	127,380	29,980	35,740	28,547	33,113	1993 Mar.
8,644	3,585	5,059	78,896	19,771	22,826	16,665	19,634	June
							Changes	
.	.	.	.	.	.	.	.	1987
.	.	.	.	.	.	.	.	1988
.	.	.	.	.	.	.	.	1989
.	.	.	.	.	.	.	.	1990
+ 1,647	+ 807	+ 840	+ 2,700	+ 294	+ 994	+ 364	+ 1,048	1991 Mar.
− 613	− 479	− 134	+ 3,592	+ 618	+ 1,577	+ 558	+ 839	June
+ 664	+ 384	+ 280	+ 55,110	+ 4,806	+ 7,000	+ 5,072	+ 38,232	Sep.
+ 555	+ 247	+ 308	− 19,488	+ 1,805	+ 3,761	+ 1,985	− 27,039	Dec.
+ 5,263	+ 2,224	+ 3,039	+ 35,834	+ 8,739	+ 9,776	+ 7,217	+ 10,102	1992 Mar.
+ 599	+ 451	+ 148	+ 31,548	+ 6,674	+ 5,289	+ 7,299	+ 12,286	June
− 4,524	− 2,136	− 2,388	− 2,557	+ 4,404	+ 2,970	− 2,121	− 7,810	Sep.
+ 2,219	+ 1,131	+ 1,088	+ 2,578	+ 4,088	+ 4,579	− 1,684	− 4,405	Dec.
+ 5,433	+ 60	+ 5,373	+ 12,700	− 2,697	− 1,697	+ 8,809	+ 8,285	1993 Mar.
− 3,284	+ 600	− 3,884	− 48,484	− 10,209	− 12,914	− 11,882	− 13,479	June

Bundesbank warns of threat from growth in derivatives

By David Waller in Frankfurt

THE BUNDESBANK today warns that the growth of derivatives markets could endanger the stability of the world financial system.

In its monthly report, the German central bank argues that the increase in the use of options, futures and other complex derivative instruments has led to an interlinking of the world's financial markets that makes them more "vulnerable to crisis".

The bank's concerns echo fears voiced last year by regulators, including Mr Gerald Corrigan, then New York Federal Reserve Bank president. However, recent reports, including one by the Bank of England, have been more conciliatory.

Derivatives are financial instruments whose value is based on underlying assets, such as a currency, interest rate or share price. The Bundesbank calculates such transactions for German banks alone totalled DM6,116bn ($3,775bn) in mid-1993, which is the equivalent of 90 per cent of the balance sheets of the entire German banking sector.

The notional amount of futures contracts traded on the world's exchanges every year has reached $140,000bn while the notional outstanding amount of swaps (contracts entered directly between banks) is about $4,500bn.

In today's report the Bundesbank recognises the positive aspects of derivatives – that they can be used to hedge risks and allow banks and companies more flexibility in managing their assets and liabilities.

But it warns that the collapse of a leading market participant or extreme market turbulence could set off a "chain reaction", that could in turn prompt a liquidity crisis in the cash markets and endanger the whole financial system.

"Such developments can only be avoided if all market participants are aware not just of all the ways in which such instruments can be deployed, but also of the risks attached to using them," the Bundesbank says.

The central bank warns against "fair-weather" risk and control mechanisms for derivatives business. And it suggests ways of mitigating the risks.

Market participants should improve their risk recognition systems, and disclosure requirements should be improved so that banks can no longer hide much of such business "off balance-sheet", the Bundesbank says.

Derivatives warning

Continued from Page 1

tleman from Texas [Mr. GONZALEZ] is recognized for 60 minutes

Mr. GONZALEZ. Mr. Speaker, the reason I rise today is to supply for the RECORD some specifics on the discussions that I have been entailing here on the House floor in the last two special orders in which mostly it has been in general terms, with the exception of some very disturbing specifics that I entered into the RECORD, and for which I wish to acknowledge the source of the contribution of the enormous exposure on what is known as the off-balance sheet accounts of our largest banks to the publication known as EEIR, and a very, in my opinion, a very eminent writer and expert on banking matters.

These specifics today will have to do with the general question that, as I say and repeat, is a disturbing problem known as derivative products If this is not properly confronted, it can be very well the most serious and critical major crisis in our next banking dilemma, and particularly as it would impact on the American banking and financial system.

In the past year or so our domestic bank supervisors and their international counterparts have begun to discuss and grapple to a certain extent with the risks posed by the banking involvement in derivative products. International conferences have been held, and impressive reports have been generated discussing a wide array of issues surrounding the evergrowing worldwide market in derivative products, which I have explained today represents a tremendous amount of money, a trillion dollars or so, being instantaneously transferred from the money capital centers of the world, London, Frankfurt, Germany, Paris, New York, Tokyo, every second of the day, even as I speak here today in a highly speculative fashion. While these activities have been a step in the beginning in the direction of trying to produce some profitability, even those steps taken by the regulators and particularly some of the long time, in fact the real international banking organizations like the BIS, the Bank for International Settlements which is little known in America, and to which the United States is not a voting member, but has been an observer only for I would say a couple of decades, and which is the reason why some very vigorous standards were imposed as recent enough as 1987 and 1988 as a result of the international agreement the United States entered into, or more or less was compelled to. That was the agreement on the convergence of capital standards. Again, that was the result of the weakness that was quite apparent and had been for some years in the American markets in which securities, highly speculative in nature were beginning to impact on the international banking system.

□ 1540

So what happened there? And this is what may happen again this time, which I do not think would address this problem as the other, the sufficiency of capital standards. What happened there, and as was recently confirmed by the appearance of a member of the Federal Reserve, in fact, the head of the New York Federal Reserve Bank, recently before our committee, in which he said that after the agreement had been reached where each one of the country participants would raise the requirements for their capital standards of their banks, the decision made by the Federal Reserve Board was to raise the capital requirements, the reserves and so forth, but not just for the banks that would be engaged in this international traffic. After all, our system in the United States is a very pluralistic system and only the top, the biggest of our banks, engage in these multi or transnational activities. So they decided that the premium increases would be distributed throughout the entire Federal Reserve Board system or members, which I thought then and think now was quite unfair. But nevertheless, this is what may happen if an attempt is made to address this problem now, which is radically different and more severe and potentially dangerous, it can be the most immediate cause for the collapse of this house of cards that has been built here within the past 2½ decades.

So that while these activities on the part of the regulators—for instance, the Comptroller of the Currency has expressed his intent to evaluate and see what could be done from the regulatory standpoint, and then the BIS has announced, after the great debacle last September 16 in the European currency market caused by the derivative, speculative movement, overnight. So that is how susceptible this whole situation is, and as I repeat, a house of cards, really. And how long can a house of cards stand?

So I think a lot more has to be done to ensure that the banks and the regulators fully understand the risks posed by derivative products; and that capital that is put aside to cover may not be necessarily the answer at this time as it was in the case of the convergence of capital standards or the enhancement of capital standards.

The urgency of my message is underscored by the fact that the U.S. bank regulators admit that they still do not fully understand the individual bank and systematic risks posed by derivatives. They admit that there needs to be improvements in international regulatory coordination and that there is a desperate need for more standardized and detailed disclosure of derivative product activities.

I have long believed that growing bank involvement in derivative products is, as I say and repeat, like a tinderbox waiting to explode. In the case of many market innovations, regulation lags behind until the crisis comes, as it has happened in our case with S&L's and banks. And we are still not out of the woods there.

We must work to avoid, if it is possible to do so now, a crisis related to derivative products before, once again, ultimately, because of our peculiar system of so-called bank deposit insurance system, the taxpayer is left holding the bag

Last year I directed the GAO to study the issue of bank derivative products and their activities.

That study has not been completed. It will be out later this year Until then, some members of my staff, the most diligent, will continue to monitor this phenomenon.

I have of my own done some research in a corollary way, and it is most disturbing.

In the next several weeks I will ask the bank regulators for detailed information regarding their work thus far and what, if any, has resulted from their evaluations

I am dedicated to insuring that this remains a front-burner issue, as I have attempted to do now for some time. As I say and repeat, the stakes are very high, though they may not be apparent—as they were not in 1987, 1986, 1985, until the dam burst and we had the taxpayers to the tune of several hundred billion dollars, and it is still not finished, the great debacle of the S&L system and related financial institutional problems

Now, there was a study entitled "Derivative Products Activities of Commercial Banks," which was released this last January 1993

I am almost sure that this was a study that resulted from the request by my counterpart and respected chairman of the Senate Banking Committee. There was also another recent development in international interbank relations. There have been some intervening but, I think, fragmentary reports. What I would like to do today, though, as I said and repeat, is to limit myself primarily to the issues surrounding the banks' involvement in derivatives, and going into a little more specificity as to the nature of these instruments.

A derivative is a financial contract whose value depends on the value of one or more underlying assets or indexes of asset values. It is also an agreement in writing between individuals that they will at a future time derive a certain value that, in the meanwhile, they are betting on. The bank regulatory agencies generally define derivative products to be financial contracts, such as, to use the specific terms, forwards, futures, options, agreements, swaps, and the like.

Now, here is a more insidious thing: Mortgage-backed securities and collateralized mortgage obligations are also a form of derivatives. And what we have been having in our country, as I see it even as chairman of the Subcommittee on Housing, and having to do both directly as chairman of the Banking Committee and chairman of the subcommittee, responsibility for the oversight and the authorization

that is a substantive legislative aspect of what is known as a secondary mortgage institution, or Government-sponsored enterprises is another fancy descriptive phrase.

What I have said all along is that if your primary market is either nonexistent or so weak as to amount to nonexistence, what do you have a secondary mortgage based on then?

□ 1550

This is where we are and continue to be. The entire situation, in my mind, is too volatile for us to act in a cavalier fashion and ignore it and not even discuss it.

It has been distressing to me that I would be pretty much alone in discussing this in a formal and in as thorough and comprehensive way as is possible with our limited facilities and staffs, but it must be done, as I have tried to do with less staff and far more limitations, going back to the 1960's and warning since then about what turned about to be the debacle of the late 1980's.

Now, the primary purpose of a derivative is to guard against fluctuations in the price of underlying assets.

Well, what do we have right now in the case of the derivatives, or whatever you want to call them, options or what not, based on the international currency market, future market? Do you know, we have got that now.

Now, actually, I am going to give a little history here by way of parenthesis that has not been noted as far as I know by anybody. That is the very first year I came to the Congress. I was on the Banking Committee. We had the Secretary of the Treasury, the great villain, appear before us in one of the very few meetings we were having that first year that I belonged to the Banking Committee. It was known then as the Banking and Currency Committee.

He came in and said, "We, the administration, are recommending that the silver transactions tax be repealed."

That intrigued me, because nobody much seemed to be knowledgeable about it. They all seemed to say, "Well, the Secretary, this great villain, is going to recommend something that actually is a needed repeal."

The Secretary said this was a wartime tax. So in one of those rare opportunities, because there were few Members in attendance even then when the committee consisted of 31 members, I was able to ask one question. That was "What are the circumstances now that are any different from the reasons given during wartime for this tax? Wasn't it to prevent speculation during war on the silver market?"

He said, "That's right, precisely."

I said, "Now in this post-war period though, we are still in very much, whether we want to consider it that way or not, a wartime basis."

And he said, "Well, the collateral reason, the main reason now is that the silver has had such a tremendous demand in the industrial world since the great developments in photography and the elements that go into the development of photography, that it is just time to repeal it."

I said, "Well, won't that revive a speculative market?"

He said, "We don't think so."

It was repealed. I voiced the dissenting vote, but it was repealed.

One other thing I asked the Secretary was if this is the use of silver, and at that time we had monetized currency; that is, even our nickels and quarters had silver content. You had silver-backed notes. At that time you could dig in your pocket and pick out some Treasury notes, as well as what you have today, 100-percent Federal Reserve notes.

What it meant was that we had a fully monetized currency. In fact, it was 90 percent silver in our coinage.

The dimes, for instance, what a difference. I can recall the tinkling sound when you dropped a dime or a quarter or even a nickel on the sidewalks, as compared to today when all you hear is a clunk.

So I asked the Secretary, "But if this is true and this tremendous demand will have an impact on the possession by the Treasury of silver for monetary purposes, what is to prevent an eventual either impossible price for the Treasury to meet and ultimate the demonetization?"

He said, "That is not in the foreseeable future."

Now, that was in April 1962.

It was exactly 3 years later that the same Secretary came before the committee and said, "We are going to have to demonetize our currency."

And since then the last monetized currency was the 1964 issue.

So today, though, what is the backdrop as to the value of the dollar. This is why I have been disturbed ever since the announcement at the Bonn summit when President Carter was President in 1979 on May 1 in Bonn, Germany, the Europeans announced and that summit announced that they agreed in principal on the development of the European monetary system, the EMS, and the European currency unit, or the ECU.

I was the only one who reported that in the Congress either on this side or the Senate side because I felt it had tremendous implications, as it has.

Now, the dollar has lost value tremendously since 1985 when for the first time we became a debtor nation since 1914.

Now, my colleagues, you might say, "What does all that mean?"

Well, it means that the dollar bill you have in your pocket is your share of the stock in our country, in our Government. If it has lost 60 percent of its value since 1985, your share is not going to be worth much, but more frightening than that is that if the dollar is replaced as the international currency unit, than all this huge monstrous debt that we have piled up on the governmental sector, the private sector and the corporate sector, would have to be paid back in somebody else's currency.

This is something the United States has been the only country in the history of the world that has been unable to pay its debts in its currency.

But my colleagues, I have expressed my fears and my worries and particularly as intensely as one voice can do. After all, that is all I have, one voice. In the words of the poet Auden, "All I have is one voice to undo the folded line," and that is not much when you consider the tremendous aspect of the potential for great damage to our national interests.

Now as I said, the primary purpose of a derivative is to guard against the fluctuation. But how can you guard against fluctuation if you are betting, as you do in the futures market generally, or the stock market, or for that matter in my book the way the things are now and as manipulative as these markets are, I would just as soon take my risks, if I were the betting kind, at Las Vegas.

The fluctuation in the price of the underlying value of the assets these assets could be anything ranging from coal currency market backed securities, pork bellies, orange juice, all of these are future gambling, if you will.

□ 1600

Most derivatives fall into one of four primary categories depending on the nature of the asset in question. These categories are, one, foreign exchange contracts, two, interest rate contracts, three, commodity contracts, and, four, equity contracts. So, the danger is great, the knowledge as to what at this date can be done to redress is sparse, very little, the ability to hem in on an international level, which today is one one-thousandth, or more of a second which can be flashed and symbolized reflecting billions, hundreds of billions, of dollars. The dealers of these international, and eepecially these intermediaries, they cater to the needs of the end users by making markets in various derivative products such as interest rate swaps, foreign exchange contracts, et cetera. Depending on what that derivative product is, the dealers include commercial and investment banks, insurance companies, and sometimes even nonfinancial businesses. We are the only country that has the kind of so-called deposit insurance system, and I have been pointing this out now for years, and have been unsuccessful in trying to get some reform, at least on the level of the banking committees. It is so corrupted from the basic congressional intent that there is no way how I can tell my colleagues what a terrible, terrible scam really it will amount to.

One does not have to be a mathematician to know that if you have about $4 trillion worth of insured deposits just in the American commercial banking system, and you have an insolvent insurance fund, that you do

not have much of an insurance system. But how can it have gotten that way? Well, that is a long story, and I have tried to put it in the RECORD in prior speeches. There is no use going out of the way to unnecessarily burden this discussion.

The risks posed by derivative products are tremendous. They are tremendous to the smooth and efficient conduct of our economy generally and, more specifically, or financial system, banking and financial system. Each of these risks poses a separate problem to the banks themselves, and, as I gave the statistics in the RECORD the last time I spoke, you can see for yourself that it is out of control.

So, Mr. Speaker, I appreciate your willingness and your patience to preside at this late hour on Friday.

The primary purpose of derivatives is to guard against fluctuations in the price of underlying assets which range in variety from gold, currency, and mortgage backed securities to pork bellies and orange juice. Most derivatives fall into one of four primary categories depending on the nature of the asset in question. These categories are foreign exchange contracts, interest rate contracts, commodity contracts, and equity contracts.

There are two broad categories of participants in derivative markets—end users and dealers. In principle, they are distinguished by their motivation. In practice, some act as both end user and dealers.

END USERS OF DERIVATIVES

There are a wide variety of end users of derivatives including corporations, banks, savings and loans, insurance companies, investment banks, pension funds, and even government agencies. For these end users, derivatives serve to reduce risk and increase profitability. For example a U.S. car company will purchase foreign exchange contracts to protect the money it earns in Europe from fluctuations in the price of the dollar versus the German mark or French franc. An insurance company will purchase an interest rate contract to ensure that it has a fixed stream of income to pay off its annuities. As managers become more sophisticated in managing the risks associated with a particular business activity, the use of derivative products will continue to grow.

DEALERS OF DERIVATIVES

Dealers or intermediaries cater to the needs of end users by making markets in various derivative products such as interest rate swaps, foreign exchange contracts, et cetera. Depending on the derivative product, dealers include commercial and investment banks, insurance companies, and sometimes, even nonfinancial businesses.

For example, traditionally, the main dealers of foreign exchange and interest rate contracts are commercial banks, while investment banks are traditionally the largest dealers of commodity and equity contracts.

Dealers generate income from transaction fees, bid-offer spreads, and their own trading positions. The large money center banks are increasingly relying on this type of activity to generate income instead of traditional activities such as lending money.

RISKS POSED BY DERIVATIVE PRODUCTS

Derivative products are essential to the smooth and efficient functioning of the economy. Nevertheless, there are many risks associated with these often complex products. The risks arising from derivative transactions, although more complex, are similar to that of traditional bank lending. Risks associated with derivatives include counterparty credit risk, market risk, settlement risk, operating risk, market liquidity risk, legal risk, and aggregate or interconnection risk. Bank loans are also subject to many of these risks.

Each of these risks poses a separate problem to banks as they attempt to evaluate the safety and profitability of derivative products. They also pose problems to regulatory agencies that are attempting to evaluate the safety and soundness of derivative product activities at individual institutions, as well as collectively.

Steps need to be taken to ensure that bank managements and bank regulators fully understand the risks of derivative product activities. Market participants and bank regulators must ensure that banks have adequate risk monitoring systems in place and that those systems are functioning properly.

I am concerned that banks and the bank regulatory agencies may not fully understand the implications of their activities and the dangers derivatives pose to the stability of our financial system. Statistics on derivative products held by bank holding companies indicate that credit exposure problems from derivative products held by individual banks, as well as collectively, are potentially enormous.

VOLUME OF DERIVATIVE HOLDINGS A RISK TO BANKING SYSTEM

U.S. banks are a major player in derivative markets. Data on the notional value of derivative contracts involving banks indicate that most of the volume in these products is concentrated in a few large money center banks that act as dealers of derivative products. The volume of derivative holdings at bank holding companies has been relatively steady since the bank regulatory agencies started gathering statistics in 1990.

As of June 1992, the notional value of derivative products held by U.S. bank holding companies was over $5 trillion. This amount represents the principle amount of the underlying assets to which the derivative product is indexed.

It is important to note that the notional value of a derivative contract is not necessarily a useful measure of risk exposure. The regulators have pretty good estimates of the credit risks associated with derivative products. Credit exposure is defined as the risk of default by a counterparty. The regulators are working on ways to quantify the other risks associated with derivative products. Credit risk exposure usually amounts to a small fraction of the notional value of the derivative holdings, say 2 to 3 percent. But we must keep in mind that credit exposure statistics are estimates.

The Basle Capital Accord makes banks set aside capital for credit exposure involving derivative products. Since it is somewhat difficult to measure credit risk, it is difficult to ensure banks are putting enough aside to cover future losses. On top of that, there are many other risks related to derivative products such as interest rate risk that are not yet incorporated in the Basle Accord.

The aggregate credit exposure to the banking industry from derivative holdings is in the neighborhood of $100 to $200 billion. While that amount is approaching half the capital of the entire banking system, at any one time it is difficult to say with certainty what part of that exposure is real, or in other words, at risk of default. It depends on the worth of the underlying assets, not the derivative product.

The total credit exposure from derivative products at the money center banks is well in excess of 100 percent of their capital. This enormous concentration of risk could pose an ominous threat to an individual bank if the underlying assets associated with the derivative product turn sour. I am worried that a large credit default or systematic problem in an underlying market could cause a catastrophe that could easily eclipse the capital of our largest banks, and endanger our deposit insurance fund.

The sheer magnitude of the bank holdings of derivative products and the vulnerability of certain banks raises serious questions about the systematic risks posed by derivative products and the means used to regulate derivative markets to ensure the deposit insurance fund is protected.

Underscoring the uncertainty surrounding the systematic risk of derivatives is the following quote from the bank regulatory study I mentioned earlier called "Derivative Product Activities of Commercial Banks." The report states:

Estimating the future credit exposure of derivatives is a more difficult task. Unlike credit exposure of a loan, the exposure of a derivative transaction can change as the price, index or rate of the underlying instrument changes. These changes cannot be known with certainty.

In other words, it is very difficult to know the degree to which an individual bank is threatened by exposure to derivative holdings, and ultimately, the exposure to the deposit insurance fund. All the bank regulators can do at this time is to make an educated guess.

This is disturbing because all you have to do is remember the threats posed by bank exposure to LDC debt, real estate speculation, and highly leveraged transactions to realize that the bank regulators have a rather dismal track record of identifying systematic risks.

The general manager of the Bank for International Settlements recently stated that banks' participation in derivative markets has "reduced the transparency of balance sheets." He said the effects on the banking system of any disturbances had therefore become harder to predict. He also stated that he was concerned about the possible build-up of systematic problems.

CONCERN FOR SPECULATORS

Another related concern I have about the derivatives market involves speculation. Recent press accounts state that Mr. George Soros, the manager of the Quantum Fund, made over $1 billion in betting against the British pound. I am interested in knowing how Mr. Soros was able to make such profits, how much of his investment capital is from bank loans, the U.S. bank exposure to Mr. Soros' fund, and the role derivatives played in earning Mr. Soros that windfall.

In the near future, I will ask the Federal Reserve and SEC to review Mr. Soros' impact on the foreign exchange market to determine if it is possible for an individual actor such as Mr. Soros to manipulate the foreign exchange market.

At a minimum, it is in the best interest of the Federal Reserve and other central banks to fully understand Mr. Soros' methodology for manipulating the FX market. After all, they are competing head on with Mr. Soros in an effort to manipulate the value of various currencies.

WORKING ON GREATER UNDERSTANDING

On the domestic front, the bank regulators must continue to refine their understanding of the working of the derivative markets and incorporate that knowledge into the examination process. It is imperative that the regulators use their knowledge to police bank derivative market activities through on-site bank examinations. Bank examiners must improve their ability to assess the adequacy of individual bank risk management systems. In addition, troubled institutions should undergo greater scrutiny.

Our domestic bank regulators also need to strive to understand the entire derivatives market, not just the bank angle. There are numerous nonbank derivatives dealers. The bank regulators need to understand how outside forces such as nonbank derivative providers impact bank participation. In other words, the bank regulators must increase coordination with the SEC, CFTC, State regulators, and the self-regulatory organizations.

Our regulators must also seek to enhance coordination with foreign bank regulators. That effort could be enhanced if the Federal Reserve would formally join the Bank for International Settlements. It is beyond me why the Federal Reserve has refused to formally join the BIS.

The U.S. bank regulators should also take the lead in promoting domestic and international efforts aimed at the standardization of reporting related to bank derivative activities. At present, the accounting standards setting body in the United States—the Financial Accounting Standards Board [FASB] is developing a study aimed at standardizing financial statement reporting of derivative products. FASB's work will have a profound influence on derivative product reporting. The regulators should work with FASB to develop more in-depth and useful disclosure.

I strongly urge our regulators to work with accounting and bank supervisors across the globe to begin developing standardized means for measuring risks of bank exposure to derivative products as well as setting common standards for disclosing these risks in accounting statements.

The Bank for International Settlements [BIS] believes that worldwide statistics on bank exposure to derivatives should be collected and published.

CONCLUSION

Derivatives are an essential feature of a market economy. They help to minimize risk and offer opportunities to increase profitability. There are also risks associated with derivative products. We must ensure that bank dealers of derivatives in the United States and abroad are properly supervised and that derivative markets are adequately regulated. If not properly regulated, derivative-related activities could pose a serious threat to the health of some money center banks, and even the deposit insurance fund. Inadequate regulation may also permit market manipulations that serve no useful purpose.

I will continue to monitor developments in the derivatives area to ensure the taxpayer is properly protected.

[From the New York Times, June 10, 1993]

CURRENCY MARKETS—WHEN SOROS SPEAKS, WORLD MARKETS LISTEN

(By Allen R. Myerson)

Once again, George Soros is putting his mouth where his money is. He published a letter in The Times of London yesterday saying that the German mark is bound to fall, causing Europe's mightiest currency to do just that.

Mr. Soros has no seat on the boards of the German Bundesbank or the Federal Reserve, but central bankers might well envy his power to make currency markets rattle and quake.

Yesterday was the third time in recent months that the timely disclosure of his investments helped increase their value. "It's a new way of making money," David C. Roche, a London-based strategist for Morgan Stanley, said. "A combination of judicious investment at the bottom of a market and a publicity coup."

A SOROS MARKET

Yesterday, the mark fell against the dollar, as traders in the United States and Europe agreed that it was a Soros market. In New York trading the dollar rose to 1.6358 marks, from 1.6250 marks on Wednesday. Earlier in Europe, the dollar jumped to 1.6390 marks, from 1.6225.

Previously, investors also rushed in to buy gold and gold stocks after the disclosure in April that Mr. Soros had taken a large stake in Newmont Mining. Just last week, the announcement of his venture with the British Land Company to buy British property set off a rally in real estate stocks.

Mr. Soros manages the Quantum Fund, which has billions of dollars—and billions more through borrowing—to deploy in any of the world's markets. He reportedly earned more than $1 billion last September betting against the British pound and other currencies that fell sharply when they fled the European Community's system of fixed exchange rates.

A spokesman for Mr. Soros refused yesterday to comment on his current investments, saying only that his letter stood for itself.

With his latest position, Mr. Soros boldly confronts Helmut Schlesinger, chief of the Bundesbank and prime defender of the German currency. "I expect the mark to fall against all major currencies," Mr. Soros said in a lavishly displayed letter of article length in yesterday's Times of London.

The Bundesbank is determined to keep the costs of German unification from reviving inflation and eroding the value of the currency. To bolster the mark, and throttle inflation, the central bank has kept interest rates high, making German currency and investments relatively attractive.

But Germany's recession has become so serious that Mr. Schlesinger's retirement in a few months will produce an abrupt change, according to Mr. Soros. To stimulate the economy, he said, "Short-term interest rates will have to be lowered, whether the Bundesbank likes it or not."

Mr. Soros said that German bond prices would then rise in marks, but fall in value once exchange rates are factored in. "For the sake of full disclosure, I am talking my book," or promoting the value of his investments, Mr. Soros said parenthetically.

European leaders have railed against speculators like Mr. Soros, with one "French official even speaking of beheading. As the global trading of currencies, for commerce as well as investment, has reached $1 trillion a day, the central banks' efforts last fall to defend their currencies succeeded primarily in handing large chunks of their reserves to the speculators.

DEFENDS ACTIVITIES

Mr. Soros, a native of Hungary, defended his activities in his letter, first noting that his investment profits financed his charitable work in Eastern Europe.

"I do not seek profits in Eastern Europe and I do not act as a philanthropic institution in the financial markets," he said. "I try to avoid speculative activities that could prove wantonly destructive, but I see no reason to abstain from moves that would happen even without my participation. Of course, in making such judgments, I am no more infallible than the central banks."

In London, the hub of currency trading, many others take his side. "Most of us in London are absolutely delighted," Thomas J. Berger, manager of Blanchard Short Term Global Income Fund, said. "We think the dollar will move ahead against the mark. We're happy to have him on the team."

Currencies could bounce much more with the release of United States producer prices tomorrow and consumer prices next Tuesday. Steven Bell, an economic adviser to Deutsche Bank Research, said that renewed inflation could cause the Federal Reserve to lift interest rates, further raising the value of the dollar against the mark.

The unemployment report out last week suggested a strengthening economy that might also foster higher interest rates. The exchange rate promptly jumped, more than after Mr. Soros's remarks yesterday—evidence, he might say, that he is ultimately following the markets rather than leading them.

[From the New York Times, June 10, 1993]

DOLLAR'S OTHER GAINS

Along with rising against the German mark, the dollar posted other gains and held its ground against the Japanese yen yesterday.

Andrew Hodge, vice president at Bank Brussels Lambert, said the dollar's strength against most major currencies reflected signs of growth in the American economy. These included the May employment report and sharply higher new home sales.

Yet trading remained subdued yesterday in advance of tomorrow's producer price report, a key measure of inflation. A report showing moderate or light inflation could hurt the dollar since the Federal Reserve would be less likely to raise interest rates to control inflation, traders said. Higher rates would make the dollar more attractive overseas.

Financial markets in Japan were closed yesterday, a national holiday, for the wedding of Crown Prince Naruhito. In New York, the dollar closed at 106.45 yen, up from 106.40 yen late Tuesday.

The British pound, meanwhile, fell to $1.5150 in New York, from $1.5201 on Tuesday. The decline was attributed in part to a speech by Norman Lamont, Britain's former Chancellor of the Exchequer, in which he harshly criticized Prime Minister John Major's leadership.

[From the Wall Street Journal, June 15, 1993]

A BAD SWAP FOR TAXPAYERS

(By Martin Mayer)

In their eagerness to boost the apparent profitability of the institutions they oversee, the world's banking regulators are on the verge of approving a dangerous new accounting gimmick. The new proposal is called "netting," and its purpose is to encourage banks to expand their involvement in the exotic "derivative" instruments that already generate a sizable fraction of the reported profits of our larger banks.

These fancy swap contracts and options now total more than $4 trillion in face value

world-wide, with much more to come. Like the "risk-controlled arbitrage" Wall Street pushed on the savings and loans when the regulators were encouraging them to be adventurous in digging out from their troubles, these technologically inventive sure bets are supposed to separate risk and reward. What they will really do, like their predecessors, is let the banks keep the rewards while the government—the taxpayer—winds up with the risks.

The idea behind these derivatives is quite simple. Mortgage lenders, for example, are funded mostly out of a money market where interest rates change every day. Home buyers want fixed-rate mortgages. Having written a mortgage that will be paid off on a fixed income stream, a bank can go out and make a deal with a lender that needs a fixed income stream on its loans (an insurance company that offers annuities, for example) and will agree to pay the bank a variable interest rate on the same amount of money.

If interest rates go down, the recipient of the fixed rate wins. If interest rates go up, the recipient of the variable interest rate wins. The bank has hedged the risk that rates will rise above the rate charged on the mortgage, and the insurance company has assumed that risk. The terms of the swap will reflect prevailing views on whether rates are going up or down.

Foreign-exchange swaps, pioneered by Salomon Brothers in 1981, benefit companies that can borrow more cheaply in one country than in another. A company that is better known in Switzerland than in the U.S. can sell Swiss-franc-denominated paper in Zurich and swap the francs for dollars with a company that can easily sell dollar-denominated paper in the U.S. but needs Swiss francs to do its business. Swaps can combine interest-rate risk and exchange-rate risk and lots of other risks, and they can and do extend in daisy chains of deals. The banks try to balance their exposures—swapping, say, pounds for marks with one party and then marks for pounds with another party to lock in a spread.

Swaps have fashionable and unfashionable sides—if the world thinks interest rates are falling, people won't want to commit themselves to fixed-rate payments. So the banks pay their counterparties to take the unfashionable side. British municipal governments in the days of very high rates agreed to pay fixed rates and receive variable rates, because they got paid cash up front to do so—then defaulted on the contracts because they couldn't afford to live up to them.

Last September, banks that had swapped their marks for somebody else's pounds lost almost 20% of the face value of the swap in one awful day. No doubt they were "hedged" against this disaster with countervailing swaps that entitled them to somebody else's marks against their pounds—but if the party to that swap had gone bust, which was by no means impossible, they'd have had to swallow a considerable loss.

Swiss Bank Corp. is suing other banks around the world for the $83 million both the Swiss had to take just from interest payments that weren't made when Macy's defaulted on a swap contract as part of its bankruptcy proceedings. Macy's took a swap deal no truly solvent company would have accepted, because it was paid to do so. The world has no shortage of struggling banks and sinking companies to grab whatever deals the banks offer.

Swaps are presented to the regulators (and, indeed, within the business) as risk-shifting devices that will make the financial system sturdier. And risk-shifting instruments always start—like program trading and mortgage-backed securities—as ways to diversify portfolios and hedge the danger of loss. Short-term hedges—the sale of bond futures by underwriters marketing new corporate bonds, for example—are an undoubted source of safety. But in the end the risks of program trading fall not on the risk-averse pension funds and insurance companies but on the vociferous gamblers in the Chicago pits, half of whom go broke every year. The trust is that, over time, risk-shifting devices shift the risks onto the shoulders of those least able to bear them.

"Netting" conceals these risks. By allowing a bank or investment bank to subtract the mark or floating-rate income streams that others owe it from the similar incomes streams it owes others, the regulators in effect put their resources behind these gambles.

In the new proposals from the Bank for International Settlements, which the Federal Reserve has tentatively endorsed, the regulators hide behind a yet-to-be-established swaps clearing house that would take responsibility for the contracts of its defaulting members, the way a payments clearing house takes responsibility for the steamer trunks full of checks and the electronic orders its members exchange with each other.

But swaps clearing houses don't exist, and what they would have to settle are not transactions in fungible money but tailor made obligations that can and will be priced in different ways by different participants. The clearing houses for futures contracts that undergird the Chicago markets work only because they impose "maintenance margins" that change every day, and such margins would be impossible to calculate in this context. To avoid the unraveling of swap contracts world-wide, the central banks—in other words, the taxpayer—would have to guarantee that the commercial banks they supervise will pay off on their swap contracts.

The proposals by the regulators are especially sad because the market was beginning to sort out the risks. Players in the swaps game were becoming more and more cautious about doing business with any but the strongest banks. Three American investment houses—Merrill Lynch, Goldman Sachs and Salomon Brothers—had spun off separate companies for this purpose, capitalized to whatever level the ratings agencies demanded if they were to receive their triple-A. Salomon had to put up $175 million to start its "Solomon Swapco," with a pledge of more to come as business expanded.

Led by Chicago's Continental, the banks tried to set up similar subsidiaries, because the market doesn't award money center banks anything like a triple-A rating. But to do that they would have to take capital from their banks. The backing regulators have been ardent in helping the banks exaggerate their published capital by overvaluing their real loans and investments, and don't want to see those numbers reduced by the demands of the swappers. The Comptroller of the Currency denied Continental the right to go down that path, and the New York banks that had filed such requests withdrew them. So the Fed had to ride to the rescue.

Regulation of the derivatives business should have a simple goal. Governments that in effect insure bank liabilities should discourage banks from playing zero-sum games where most of the participants are other banks. The time has come for the regulators and the Clinton administration to let the market protect the real economy.

RECENT DEVELOPMENTS IN INTERNATIONAL INTERBANK RELATIONS

(A report prepared by the Working Group established by the Central Banks of the Group of Ten countries)

PREFACE

In 1991, the Governors of the central banks of the Group of Ten countries established a working group to study recent developments in international interbank relations. The group was asked to focus on the role and interaction of banks in non-traditional markets, notably the markets for derivative instruments, to examine the linkages among various segments of the interbank markets and among the players active in them, and to consider the macroprudential concerns to which these aspects might give rise.

The present report summarises some of the findings and conclusions of the working group. The report builds upon information gained from interviews conducted with market participants in G-10 financial centres in December 1991 and early 1992. It also draws upon some of the insights provided by two previous studies prepared for the Governors: "The International Interbank Market: A Descriptive Study", published by the BIS in 1983, and "Recent Innovations in International Banking", published by the BIS in 1986.

The views expressed in this report are those of the working group and do not necessarily reflect those of the G-10 central banks or the BIS.

I. INTRODUCTION AND SUMMARY

International interbank relations have undergone significant changes in recent years as a result of the development of new financial instruments, advances in computer technology, regulatory developments and changes in financial strategies and trading practices. Most notably, financial operations involving derivative instruments have significantly altered the role of the traditional international interbank deposit markets. Moreover, such operations have strengthened linkages among various sectors of the financial industry, as well as between banks and non-financial firms. Indeed, it is no longer meaningful to consider interbank markets as separate from wholesale markets more generally. At the same time, increasing linkages among markets have blurred the distinction between domestic and international markets. Statistical information on the relative growth and size of various financial markets and on interbank transactions confirm these changes.

Market participants cite several important driving forces behind the changes in interbank and wholesale markets in recent years. These include intensified concerns about the creditworthiness of counterparties, increased competition in financial markets, as a result of deregulation; the Basle Capital Accord, which itself tended to impose higher capitalization on banks and also acted as a catalyst for market forces that worked in the same direction; the ongoing institutionalisation of savings and the more active management of portfolios, which have greatly increased the volume and size of domestic and cross-border financial transactions, and continued gains in computer technology, which have further enhanced banks' abilities to assess market risks and to meet more diverse customer demands.

These driving forces have had several effects on the nature, relative growth of and relationships among various wholesale markets. First, credit concerns, capital constraints and the advantages of derivative instruments for hedging and position-taking purposes have contributed to a relative, and in some cases, absolute decline in activity in

a number of traditional interbank markets. By contrast, since the mid-1980s, the growth of turnover and of volumes outstanding in markets for derivative instruments, including over-the-counter (OTC) markets that offer more customised products, has outpaced the growth of most other financial market activity. Banks have accounted for a large share of that growth, in part in their role as suppliers of derivative products to their clients, but increasingly through transactions on their own behalf for *risk management* and position-taking purposes. Available statistics suggest that at least 60 percent, and in many cases much more, of banks' exposures in these markets are incurred against other banks.

Second, the heightened concern about credit risk, reflecting both a perception of increased default risk and greater difficulties in assessing counterparties' strength, has led many banks to reduce the size of interbank credit exposures that can be authorized, to shorten the maturity of the business they are willing to take on, and to limit dealing activities that yield low profits but give rise to large counterparty exposures. As a result, both traditional and new wholesale market business have become increasingly concentrated on a relatively small group of higher rated institutions, primarily banks, on which smaller banks have become more dependent.

Third, the complexity of risks incurred in OTC derivatives markets means that firms that want to participate profitably and safely in them must have at their disposal advanced hardware and software systems and highly skilled individuals. These requirements have contributed further to the concentration of more complex transactions on the books of a small number of players, not all of which are banks.

Fourth, the increased concentration of funds in certain types of institutions that trade actively has increased the ability of some large players individually and collectively to affect market prices. Because of the resulting increase in risks, in many market segments less capital is devoted to the market-making function relative to the overall capital put at risk in them. Market-making has become increasingly concentrated in firms that possess the size and expertise required to handle the risks profitably.

Fifth, linkages between markets have been greatly strengthened by the more rapid dissemination of information, the increased use of derivative products and the more widespread use of complex instruments and strategies that span many market segments. At the same time, the presence of the same small set of key players in most of the wholesale markets has deepened linkages among the participating institutions.

The changing nature of international interbank operations has significantly altered the risk environment facing banks. The participation in wholesale markets by entities subject to few disclosure requirements, as well as the growth of off-balance-sheet activities more generally (adequate details of which are rarely disclosed), has made the assessment of counterparty risks considerably more difficult. The complexity of risks encountered in banks' derivatives operations also presents major challenges. So does the management of the large intra-day credit exposures and settlement positions that have arisen as a result of the increase in wholesale market trading. Cash liquidity and market liquidity risks have also become more problematic for a number of participants. Market risk, by contrast, is said to be more manageable now than in the past, owing to the efforts firms have made in recent years to control these risks through the use of derivative instruments and other techniques. Market risk are also more easily priced than other risks. The pricing of credit risk appears to be problematic in a number of markets, where variations in individual counterparty credit limits (that is, quantity rationing) remain an important alternative means of distinguishing among counterparties of different credit standing.

Participants in interbank and wholesale markets have responded to these changes in their risk environment by upgrading risk management capabilities. Most participants accept the need to devote very considerable resources to evaluating, monitoring, and managing on a global basis the risks incurred across departments, products, and the rangs of counterparties with which they deal. They are also actively seeking means of reducing those risks, for example, by trying to exploit to an increasing extent the potential benefits of bilateral and multilateral netting arrangements. However, there is no single agreed best practice and, at many firms, significant gaps remain between the desired capabilities of risk management systems and the systems actually in operation, reflecting in most cases the significant costs involved in implementing them. Among the *firms* interviewed in connection with this report, some are more cognizant of risks than others. There are also differences across institutions with respect to the willingness to take, and ability to manage, risks. Moreover, the participants interviewed are among the institutions most active in these markets, and some others may have less expertise in risk management.

The sensitivity of market participants to the risks involved in their activities and the tendency for participants in well-functioning markets to respond to an increased perception of risk are positive elements in terms of reducing the likelihood that serious disruptions arise. However, a number of the features which have characterized the evolution of wholesale markets in recent years have tended to work the other way, or at least, to exacerbate problems if they do arise. First, the distinction between interbank markets and wholesale markets more broadly has become less clear. Because of increased linkages across markets, a wide range of types of institutions, from a number of countries, can become involved as problems spread. Second, greater sensitivity to credit risk has made banks increasingly reluctant to support troubled counterparties. Third, the complexity of many financial transactions has reduced the transparency of firms' balance sheets and off-balance-sheet activities. This might cause firms to back away from troubled institutions or from institutions perceived to be subject to similar stress. Fourth, the availability of derivative instruments has enabled participants to take complex positions that rely on a presumption of liquidity in a number of markets; that presumption may prove illusory in times of stress, with a consequent impact on other markets. Fifth, positive feedback channels and the increased reaction speed of prices can reduce the time that central banks have to react to an incipient crisis.

To keep pace with the rapidly changing financial environment, market participants, individually and collectively, need to develop further the procedures and infrastructures required to monitor and control risks. In particular, management awareness and understanding, at all levels, of the risks being taken on by their institutions, and of the assumptions and parameters on which these risk exposures are predicated, must be enhanced. Greater attention than in the past should be paid to the ramifications on their own operations and risk exposures of problems at institutions or in markets on which they rely heavily. Firms must develop contingency plans for dealing with such circumstances.

In addition, consideration of a number of measures to strengthen the institutional underpinnings of wholesale markets, involving roles for market participants, central banks and other entities, should be given high priority.

First, there is scope for enhancing netting schemes. Although there is a need to be realistic as to the possibility that netting arrangements may fail to reduce risks to the extent intended, and may break down in times of stress, properly designed netting arrangements can reduce risks associated with a given level of activity. To ensure such as outcome, a number of issues need to be addressed. These include: (i) a resolution of legal uncertainties involving the enforceability of netting arrangements within countries and, even more difficult, across countries; (ii) the development of methods to ensure, in the case of multilateral arrangements, that the system has the capacity to achieve settlement in the event of the default of one or more participants; (iii) in the context of multilateral clearing house arrangements, elaboration of the best means of encouraging differentiation among counterparties, on the basis of creditworthiness; and (iv) reaching agreement on the appropriate form of supervisory recognition of netting, so that any reduction in capital charges associated with netting is consistent with, and provides incentives for, an actual reduction in risk.

Second, to alleviate problems associated with reduced transparency in financial markets, market participants and central banks should encourage efforts aimed at improving and achieving some harmonisation of accounting and reporting practices with respect to off-balance-sheet instruments. To the extent possible, development of accounting guidelines should be done in an internationally coordinated manner. Ways of making public disclosure of financial positions more meaningful should also be undertaken.

Third, uncertainties with respect to the laws affecting financial markets in individual countries and the application of various laws to international financial activities pose a risk to markets and complicate risk management. Continuing cooperative efforts to resole these uncertainties should be encouraged.

The rapidly changing environment also presents new challenges to the traditional roles of central banks in fostering financial market stability. The most fundamental responsibility of central banks in that regard is the pursuit of macroeconomic policies that are conducive to monetary, economic and financial market stability. Central banks must also work with other financial authorities to help ensure that banks and other financial institutions are adequately capitalised and have appropriate systems in place for managing and controlling risks.

Beyond this, it is clear that in order to play an effective supporting role in further reducing risks, central banks need to continue to develop further their understanding of the nature of financial activities and of the risks faced individually and collectively by all participants in financial markets. Achieving greater understanding is a field for active cooperation between central banks and market participants. Both market participants and the working group perceive a strong need for better, more comprehensive and more meaningful statistics concerning derivative markets and the involvement of banks and other financial institutions in them. Although important improvements have taken place in recent years in national reporting systems, and in the statistical ma-

terial collected and compiled by industry associations and organized derivatives markets, serious gaps remain. Further efforts should be undertaken to develop a better understanding of (i) the concepts relevant to monitoring macro-prudential risks in this context, and (ii) which data could best elucidate these concepts. It should also be considered whether existing or prospective supervisory reporting systems could be used to help generate such data and whether the data could be published in an aggregated form to help market participants assess their own positions in the markets.

To develop their technical expertise with respect to market instruments and market mechanisms, central banks must place high priority on continued monitoring and analysis of developments in wholesale markets. The changes taking place in interbank relations are not yet fully understood, and cannot be fully clarified by better statistical coverage alone. Continued contact with market participants will be also be important. Modest re-runs of the interviews carried out for the present report, confined to a small number of key institutions in major market centres, should therefore be continued.

Derivative Product Activities of Commercial Banks

(Joint Study Conducted in Response to Questions Posed by Senator Riegle on Derivative Products by the Board of Governors of the Federal Reserve System, Federal Deposit Insurance Corporation, Office of Comptroller of the Currency)

Data on the notional value of derivative contracts indicate that for U.S. banks most of the volume in derivative products is heavily concentrated at a few large institutions that are among the most active intermediaries in the OTC derivative markets (Exhibit 1). The concentration of derivative activity among large banks has been relatively stable over the past several years. On an aggregate basis, bankholding companies with less than $10 billion in assets have shown no appreciable increase in the relative volume of their derivative holdings since the banking agencies began collecting comprehensive data in 1990. These small and regional banking institutions are primarily end users who generally use derivatives to manage risks arising from their traditional lending activities.

The notional amounts presented in Exhibit 1 represent the principal amounts of the underlying asset or assets to which the values of the derivative contracts are indexed. They are the hypothetical amounts used to calculate contract cash flows and are generally never actually paid or received. Accordingly, the notional value of a derivative contract is not a useful measure of credit exposure. That exposure generally amounts to only a small fraction, say two to three percent, of notional value. For example, the notional principal amount of an interest rate swap is the hypothetical basis used to calculate the periodic interest rate payments of the swap. The fixed and floating interest rates are multiplied by the notional value to determine the amount of each payment. In this case, the replacement cost or the positive market value (if any) of the swap is the preferred measure for assessing the amount of credit exposure if the counterparty to the agreement defaults. The market value of a derivative contract is determined by calculating the present value of all expected future cash flows of the contract. Since the expected cash flows are just a fraction of the hypothetical notional amount, the market value or replacement cost is only a small fraction of that amount. Available replacement cost data (Exhibit 2) reinforce the point that derivative activity is highly concentrated at a few large institutions.

EXHIBIT 1.—VOLUME AND GROWTH OF DERIVATIVE ACTIVITIES AT U.S. BANK HOLDING COMPANIES

[By asset size of company]

Derivative activity	September 1990			June 1992		
	Total volume[1]	Percent of volume		Total volume[1]	Percent of volume	
		BHC's >$10 billion	BHC's <$10 billion		BHC's >$10 billion	BHC's <$10 billion
Interest rate swaps	1,525.1	98.58	1.42	1,893.8	98.24	1.76
Interest rate futures/forwards	913.8	99.27	.73	1,545.8	98.73	1.27
Interest rate options	698.2	94.52	1.08	973.1	98.95	1.05
Foreign exchange swaps	757.1	99.38	.62	306.3	95.95	.05
Foreign exchange options	482.8	99.08	.92	463.6	99.83	.17
Commodity swaps	3.5	98.70	1.30	14.0	100.00	.00
Commodity options	6.7	99.34	.66	67.5	97.68	2.32
Commodity futures/forwards	30.5	99.62	.38	70.6	99.17	.86

[1] Notional values in billions of dollars. (See discussion of notional values in text).

Source: Quarterly data FR Y-9C.

EXHIBIT 2.—LARGEST REPLACEMENT COST CREDIT EXPOSURES[1] AT U.S. BANK HOLDING COMPANIES,[2] SEPT. 1992

[Dollar amounts in billions]

Company	All contracts		Interest rate contracts[3]		Exchange rate contracts[4]	
	Amount	Percent of total assets	Amount	Percent of notional amount	Amount	Percent of notional amount
1. Citicorp	$30.7	1.5	$6.3	.15	$23.4	2.7
2. Chemical	27.4	1.97	9.5	.13	17.9	3.0
3. J.P. Morgan	27.3	2.18	11.6	.23	15.5	3.7
4. Bankers Trust	24.2	3.14	7.3	.22	17.5	4.5
5. BankAmerica	22.4	1.28	6.7	.25	15.7	4.2
6. Chase Manhattan	21.7	2.23	5.6	.17	15.8	3.2
7. First Chicago	16.9	2.82	2.3	.14	14.7	3.3
8. Continental Bank	2.4	1.55	1.6	.21	.8	2.9
9. Bank of New York	2.2	5.1	.6	1.9	1.7	3.4
10. Bank of Boston	1.9	3.2	.6	7.5	.5	4.2
Total—10 companies	179.0	1.73	52.5	.18	119.7	3.4
All other large BHC's	8.5	.5	6.3	.32	1.3	3.5

[1] Replacement cost is net "positive market value" (includes futures contracts).

[2] Companies with $1.0% 000 BDC's or more in total assets.

[3] Exposure on derivative price activity where individual contracts are netted bilaterally through novation, for example, foreign exchange contracts netted under ISDA agreement.

[4] Includes contracts with original maturities of 14 days or less.

Source: FR Y-9C.

IT'S THE ECONOMY, STUPID

The SPEAKER pro tempore (Mr. MORAN). Under a previous order of the House, the gentleman from California [Mr. DOOLITTLE] is recognized for 60 minutes.

Mr. DOOLITTLE. Mr. Speaker, today the Senate deals with the reconciliation bill containing the tax increases. I marvel at how Washington can continue to function in this fashion when the reality is the economy is extremely weak, in California, in a deep recession, representing now about 11 percent of the United States. I had a friend write me a letter recently, but it is not here yet. Maybe I will refer to it in greater detail a little bit later. But the gist of the letter was:

"Please don't do anything more to the Tax Code. Just leave it alone. Don't give people a reason not to spend their money. There is a tremendous demand to buy new homes. There is a desire on the part of people to do it. But they're hanging on to their money because just about every day of Washington someplace, whether it is the White House, and mainly it's the White House, or one of the related agencies, we're getting some statement about changes that are likely to occur that are likely to be punitive toward people, and so these people are being intimidated basically not to spend their money, and when they don't spend that money, we don't prime the pump, economically speaking, and the result is that we remain in recession."

And I think, Mr. Speaker, this is getting to be a very serious question for the people of the United States as this Presidency stumbles along from one area to another After all, this was an administration that had the phrase, which I think is peculiarly ironic now, and the phrase was. "It's the economy, stupid."

Well, now they have got to live with that phrase, and I hope they keep the poster up to remind themselves that, yes, it is the economy, we need to do something about the economy and not continue to languish in the fashion that we have been.

So, I am very, very concerned about what I see happening. The bill, as it has emerged from the Senate, at least the agreement among the Democrats on the Senate Finance Committee, concerns me We are going to increase the marginal tax rate now, the top one for individuals, to 33 5 percent this year and 36 percent thereafter, and for couples with taxable income above $140,000, and then for couples with taxable income about $250,000 the rate will go from 35 3 percent this year, and then up to 39 6 percent thereafter. That is a problem for people, to layer on ever higher taxes.

It would be nice if we could create the kind of an economy where everybody had the opportunity to get incomes above $250,000 Increasingly that is being removed from the possibilities for Americans

Something I find incredible is the proposal to increase the tax on capital gains, and that rate is going to be increased by 2 percentage points now We know when we get into tampering with capital gains rates and being punitive that we end up actually getting less revenue to the Government.

And I just think that we hear all this diatribe We have heard it for several years now against the terrible 1980's and the disastrous Reagan and Bush years. I should point out as an aside that we should isolate the 8 years of Ronald Reagan from the 4 years of George Bush.

The 8 years of Ronald Reagan were years of tremendous economic growth Every income class advanced, and the ones in some income classes really advanced, and people hear a lot about that. Those in the top end really advanced. Those at the bottom, they advanced, but they did not advance by as much.

President Kennedy said—a good liberal Democrat in his day—that a rising tide lifts all boats, and that was simply a recognition of the fact that, in order for the poor to get richer, the rich get richer, and we ought to just recognize that that is one of those basic economic principles. We ought not to disparage anyone from being able to improve his or her lot.

We, as policymakers, ought to be creating the economic policies of this country so that everyone working hard can seize hold of that great opportunity which we call the American dream and, as my colleagues know, reach for the stars. Increasingly we are losing that opportunity.

The House Republican Conference issued its analysis, distributed it this morning, a primary analysis of Democratic Senate finance proposals, and there is an interesting section here on the capital gains tax increase.

□ 1610

I would like to just share some of the specifics of this with the Members. We already know that the capital gains tax is too high. President Clinton indicated it was too high and actually proposed dropping it. Apparently that has been thrown out the window now. President Bush proposed dropping it.

One of the greatest and most colossal mistakes ever made on President Reagan's watch was when he signed the 1986 Tax Reform Act. That probably was the single most detrimental piece of legislation that was signed during Reagan's tenure in office. We continue to this day to suffer from the effects of that bill. One of the bad things it did was to dramatically increase the capital gains.

Anyway, the Democrat Senate Finance Committee's proposal is to raise the capital gains tax for taxpayers with incomes above $250,000 by 2 8 percent, and so now this change will increase the capital gains rate from 28 to 30.8 percent.

This is exactly the opposite of what we should be doing if we want to create jobs. Historically, as this analysis points out, higher capital gains tax rates have corresponded historically with a substantial decline in new seed financing for job-creating, startup jobs. We all know that three-fourths of the jobs that are created in this country are from small business. Listen to this: "Since the 40-percent increase in capital gains rates in 1986"—brought about by that disastrous Tax Reform Act that was signed into law—"venture capital financing of small businesses dropped by two-thirds."

I might just parenthetically add that this 1986 act was, we were told, the one that was going to simplify everything. Remember that? Nobody ever talks about that anymore because nobody's taxes seem very simple. But that was the justification for doing all this. It created the real estate depression and the present disastrous set of circumstances that we face today.

All right, let us look at what happened. We raised the rates by 40 percent in capital gains in 1986 Guess what happened? Capital gains realizations, meaning the revenue produced from capital gains, have been cut in half in the 5 years since the 1986 increase, falling from $213 billion in the year before the increase down to $108 billion in 1991.

Mr. Speaker, imagine what is going to happen now when we hike these taxes even further. We have documented evidence that raising these taxes actually results in bringing in lower amounts of revenue. And here we go. The patient is sick. We continue to increase the dosage of the same old medicine, and the patient will continue to get sicker.

Mr. Speaker, this article that I referred to earlier is in the Wall Street Journal. This is another article, talking about how under all economic theories, insofar as we are aware of them, we get the same result. This is by a man by the name of W. Kirt Hauser, and this is in the March 25, 1993, issue of the Wall Street Journal. He points out something that is indeed a fact, and this is the quote:

> There is no economic theory, be it classical, neoclassical, Keynesian, supply-side, or Marxist, that promotes higher taxes as a stimulus to economic activity Indeed, both the Keynesian and supply-side models agree that lowering taxes stimulates economic activity while raising taxes hampers economic activity.

Mr. Speaker, this administration came to power on the promise that they were going to get the economy moving again and create jobs, that we were going to have a middle-class tax cut, and that we were going to make health care more affordable. So far, those promises, rather than having been advanced, have really been broken, as far as I can tell.

We are not getting the economy moving again. Indeed, we see some of these promises coming down the pike now out of the Senate bill. We got rid of the disastrous Btu tax only to be faced with a gas tax.

I am sure that everyone is aware of what the condition of the airlines is right now. We have America West and TWA in trouble. TWA has been a great airline for years. They are both in chapter 11. Continental just came out of chapter 11, and it is obviously in a weak recovery period. Northwest Airlines is tottering on the brink of bankruptcy. There is a article today about that by the Associated Press explaining that they are trying to meet with the pilots, hoping that the pilots will take on some responsibility and buy into this airline and save it before it goes under. Delta Airlines is in trouble. It is not in chapter 11 yet, but it is in trouble. They are reducing people's benefits, and they are cutting back on their employees.

What do we think is going to happen when we add to the fuel tax of these airlines? It is going to be disastrous.

Mr. KINGSTON. Mr. Speaker, will the gentleman yield?

Mr. DOOLITTLE. I yield to the gentleman from Georgia.

Mr. KINGSTON. Mr. Speaker, I thank the gentleman for yielding.

On the subject of the gas tax, I wanted to find out a little bit about that. Leon Panetta said a gas tax would hurt the rural areas the hardest, the farmers, and so forth, and the people in smaller towns who have to drive great distances to get to work. Then in February, President Clinton said, and I quote, in terms of raising the gas tax:

DC FII.09

BOARD OF GOVERNORS
OF THE
FEDERAL RESERVE SYSTEM
WASHINGTON, D. C. 20551

NOV -9 1993

SUSAN M. PHILLIPS
MEMBER OF THE BOARD

November 8, 1993

RECEIVED
NOV 10 1993
Committee on Banking, Finance
& Urban Affairs

Honorable Joseph P. Kennedy, II
Member
Committee on Banking, Finance and Urban Affairs
U.S. House of Representatives
Washington, D.C. 20515-6050

Dear Mr. Kennedy:

I am writing to clarify my response to two of your questions during my October 28th testimony on the derivatives activities of banks. Specifically, you had asked about the frequency and comprehensiveness of Federal Reserve examinations and then asked a follow-up question about the total number of insured commercial banks. I responded to the initial question that the Federal Reserve examines approximately 900 state member banks each year and to the follow-up question that there were roughly 10,000 insured banks (the precise figure as of June 30, 1993 is 11,208). These responses, given in quick succession, excluded the examination activities of the other federal and state banking agencies and may have given the impression that only a small portion of the banking system is examined annually. In fact, Section 111 of FDICIA requires that each federally insured depository institution receive an annual full-scope, on-site examination by the appropriate federal banking agency. In the case of state chartered banks, FDICIA provides that examinations can be conducted by the state if special conditions are met.

As you may know, the Federal Reserve is the primary federal supervisory agency for only state member banks. Since state banking departments have authority for them as well, we work closely with these departments to coordinate on-site examinations. Where appropriate, we employ an alternating examination cycle, whereby the Federal Reserve and the state authority take turns in conducting the annual examination. In other cases we conduct joint examinations with staff of the other federal banking agencies -- contributing to the development of a single common examination report. These programs, however, do not apply to banks with significant derivatives activities, which are examined every year by the Federal Reserve.

As of year-end 1992 there were 956 state member banks. During 1992, approximately 700 of these state member banks were examined by the Federal Reserve with the remaining banks examined by state supervisors or through joint examinations.

As detailed in our written responses to questions posed by Chairman Gonzalez and Congressman Leach, the Federal Reserve has a comprehensive supervisory process for evaluating the safety and soundness of the derivative activities of state member banks. An important tool used in this process is the Federal Reserve's Trading Activities Manual. That manual takes a comprehensive approach to evaluating an institution's risk management process for both trading and derivatives activities. It provides detailed examination procedures for evaluating an institution's organizational structure, front- and back-office operations, management information systems, risk measurement approaches and overall risk management function. This manual was submitted as supplementary material in our responses Chairman Gonzalez and Congressman Leach.

As you pointed out in your opening comments, one of the best ways a bank can curb undue risk taking is through adequate controls and limits. We agree. In fact, the examination procedures presented in our Trading Activities Manual emphasize an evaluation of the adequacy of internal controls and limits. This assessment is conducted with special attention given to the specific condition and circumstances of the individual institution and avoids the use of standardized limits. Standardized limits that apply to all institutions require a "one size fits all" approach to evaluating limits. For some institutions, uniform standards might be inappropriate and could be set at levels that actually increase risk. For others, regulated standards may inhibit innovation and competition.

I hope these insights have clarified any misunderstandings that may have arisen during the hearings. If you or your staff have any further questions please do not hesitate to call me.

Sincerely,

Susan M. Phillips

cc: Congressman Henry B. Gonzalez
Congressman James Leach

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BANKING ISSUANCE

Comptroller of the Currency
Administrator of National Banks

Type: Banking Circular

Subject: Risk Management of Financial Derivatives

TO: Chief Executive Officers of National Banks, General Managers of Federal Branches and Agencies, Deputy Comptrollers, Department and Division Heads, and Examining Personnel

PURPOSE

This banking circular provides guidance on risk management practices to national banks and federal branches and agencies engaging in financial derivatives activities. The guidelines in this circular represent prudent practices that will enable a bank to conduct financial derivatives activities in a safe and sound manner. National banks engaged in financial derivatives transactions are expected to follow these guidelines. (Financial derivatives transactions are sometimes referred to herein as "financial derivatives," "derivatives transactions," or "derivatives.")

REFERENCE

This banking circular replaces and supersedes Banking Circular 79 (3rd Rev.), "National Bank Participation in the Financial Futures and Forward Placement Markets," dated April 19, 1983.

SCOPE

Financial derivatives transactions currently represent a relatively small portion of the total credit, market, liquidity, and operational risk to which most banks are routinely exposed. However, because of their complexity, many banks involved in financial derivatives transactions have developed sophisticated approaches in managing those traditional types of risk. These guidelines reflect such approaches and, therefore, represent sound procedures for risk management generally. Therefore, to the extent possible, they should be applied to all of a bank's risk-taking activities.

PRESENTATION

An outline of the guidance in this banking circular follows. Within the topical discussions, a summary statement of the guidance appears in bold type. Each summary is followed by supplemental discussion. References to "national banks" or "banks" throughout the circular also include, to the degree appropriate, federal branches and agencies of foreign banks.

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DEFINITION

Financial derivatives may be broadly defined as financial instruments which derive their value from the performance of assets, interest or currency exchange rates, or indexes. Derivative transactions include a wide assortment of financial contracts, including structured debt obligations and deposits, swaps, futures, options, caps, floors, collars, forwards, and various combinations thereof.

BACKGROUND

Financial derivatives, properly used, provide national banks with substantial benefits. They provide banks greater flexibility in managing risk by separating out the different types of risks that are found in financial instruments and services, and by transferring those risks to parties who are more willing, or better suited, to take or manage them. Financial derivatives transactions also often provide users with the lowest cost funding alternatives by reducing transaction costs and, in some cases, by exploiting arbitrage opportunities across financial markets. Further, banks can use financial derivatives to efficiently reduce undesirable exposures to factors such as interest rate changes or currency fluctuations. Finally, banks can offer financial derivatives to customers seeking risk management tools to assist in meeting business objectives. The Office of the Comptroller of the Currency (OCC) encourages national banks to use derivatives for such purposes.

The complexities of financial derivatives, however, raise concerns about some institutions' use of derivatives under certain circumstances. National banks engaging in derivatives transactions must do so in accordance with safe and sound banking practices. The OCC is concerned about how the use of financial derivatives can influence the risk of failure of any institution, and particularly those institutions whose failure might threaten the solvency of other institutions or negatively affect liquidity in the nation's financial system.

The OCC believes that the best defense against sizeable individual losses or significant systemic disruptions is the implementation and use by individual banks of sound and efficient risk management systems. Such systems for managing credit, market, liquidity, operational, and legal risks should prevent significant losses due to counterparty failure or adverse changes in market conditions. No systems, however, can substitute for open and timely communications between trading, operating, and risk management units.

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GUIDANCE

A. Senior Management and Board Oversight

National banks that engage in derivatives activities should have effective senior management supervision and oversight by the Board of Directors to ensure that such activities are conducted in a safe and sound manner and are consistent with the Board of Directors' overall risk management philosophy and the bank's business strategies.

Before engaging in derivatives activities, bank management should ensure that all appropriate regulatory approvals are obtained and that adequate operational procedures and risk control systems are in place.

Any derivatives activities also should be approved by the Board of Directors; by a committee thereof; or by appropriate senior management, as designated by the Board of Directors. Proposals to undertake derivatives activities should include, as applicable:

- A description of the relevant financial products, markets, and business strategies;
- The costs of establishing sound and effective risk management systems and of attracting and retaining professionals with specific expertise in derivatives transactions;
- An analysis of the reasonableness of the proposed activities in relation to the bank's overall financial condition and capital levels;
- An analysis of the risks that may arise from the activities;
- The procedures the bank will use to measure, monitor and control risks;
- The relevant accounting guidelines; and
- An analysis of any legal restrictions and whether the activities are permissible.

A bank's Board of Directors and senior management should carefully consider the resources required to enter into the derivatives business. At a minimum, senior management and the Board of Directors should ensure that the financial condition of the institution and the professional expertise of designated personnel are adequate to support the bank's proposed activity.

After the bank's initial entry into derivatives activities has been properly approved, any significant changes in such activities or any new derivatives activities should be approved by the Board of Directors or by an appropriate level of senior management, as designated by the Board of Directors. What constitutes a new activity will vary among institutions. Examples include entry into different product lines or markets, the use of derivatives instruments with different risk characteristics, the use of derivative instruments to implement different business strategies and goals, and the use of derivative instruments with cash flow performance dependent upon markets in different geographic regions.

Banks that propose to enter the derivatives markets as end-users should ensure that the Board of Directors and senior management understand and agree that the risk management techniques and reporting procedures that will be used are appropriate. Banks entering into derivatives transactions as dealers should ensure that their Boards of Directors and senior management understand the potential risk exposure, and the appropriateness of the proposed business in light of the strategies and objectives approved by the Board of Directors.

Senior management of national banks that act as dealers of financial derivatives should establish procedures necessary to ensure that individuals involved in the sales and trading units sufficiently understand derivatives instruments to identify instances in which a bank customer may not fully understand the risks associated with a particular transaction.

1. Written Policies and Procedures

A bank should have comprehensive written policies and procedures to govern its use of derivatives. Senior management should review the adequacy of these policies and procedures, in light of the bank's activities and market conditions, at least annually. Appropriate governance by the Board of Directors should include an initial endorsement of significant policies (and changes, as applicable) and periodic approval thereafter, as appropriate, considering the scope, size and complexity of the bank's derivatives activities.

A bank's policies and procedures governing the use of derivatives may be part of a broader set of policies and procedures, such as those addressing financial risk management, customer-related business activities, and/or proprietary trading activities. Written policies and

procedures should address risk management (market, credit, liquidity, and operations), legal issues, capital requirements and accounting standards. At a minimum, such policies and procedures should identify:

- Managerial oversight and responsibilities;
- Scope of activities;
- Risk limits;
- Risk measurement and reporting processes; and
- Operational controls.

2. General Risk Monitoring and Control

Senior management of each national bank engaging in derivatives transactions should establish an independent unit or individual responsible for measuring and reporting risk exposures. That responsibility should include monitoring compliance with policies and risk exposure limits.

The individuals or units responsible for risk monitoring and control functions should be independent of the units that create risk exposures. Such individuals or units are responsible for developing and supporting risk measurement systems, establishing market and credit risk approval processes, developing appropriate risk control policies, reporting risk exposures, and monitoring the bank's risk position against approved limits. These individuals or units should have sufficient experience and authority to make and direct critical position and transaction decisions if circumstances require. The individual or unit may be part of a more general operations, compliance, or risk management unit.

Regardless of how the risk monitoring and control operation is structured, personnel should have appropriate experience and ability to understand and communicate the implications of the institution's exposure to senior management and the Board of Directors in a timely manner. This function should also be supported with the technical and financial resources and the corporate visibility and authority necessary to ensure effective oversight.

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3. Risk Management Systems

National banks engaged in financial derivatives transactions should have comprehensive risk management systems that are commensurate with the scope, size, and complexity of their activities and the risks they assume. Such systems must ensure that market factors affecting risk exposures are adequately measured, monitored, and controlled. These factors include changes in interest and currency exchange rates, commodity and equity prices and their associated volatilities, changes in the credit quality of counterparties, changes in market liquidity, and the potential for major market disruptions. Risk management procedures also should adequately control potential losses arising from system deficiencies.

A comprehensive risk management system will incorporate:

- Effective management supervision and oversight by the Board of Directors;
- Procedures that identify and quantify the level(s) of risk on a timely basis;
- Limits and other controls on the level(s) of risk with respect to counterparty credit, concentrations, and other relevant market factors;
- Limits and other controls on inter-connected risk positions (i.e., two or more risk positions that are correlated and would be expected to change in value due to a change in the same market factors);
- Reports to senior management and the Board of Directors that accurately present the nature and level(s) of risk taken and compliance with approved policies and limits; and
- Auditing procedures to ensure the integrity of measurement, control, and reporting systems, and compliance with approved policies and procedures.

When determining risk exposure limits, senior management should consider the nature of the bank's strategies and past performance, the level of earnings and capital available to absorb potential losses, and the Board's tolerance for risk. This analysis should be available for bank examiners to review. The Board of Directors, or its designee(s), should review the appropriateness of established limits and controls whenever significant changes occur in the size and scope of the bank's activities or market conditions, or if the bank experiences

significant reductions in earnings or capital that were not anticipated at the time the limits and controls were established.

4. Audit Coverage

National banks should have audit coverage of their financial derivatives activities adequate to ensure timely identification of internal control weaknesses and/or system deficiencies. Such audit coverage should be provided by competent professionals who are knowledgeable of the risks inherent in the financial derivatives transactions.

Audit coverage of derivatives activities should be commensurate with a bank's level of risk and volume of activity. For those banks with end-user activities, audit coverage is likely to be included within the scope of audits of the interest rate, foreign currency, and liquidity risk management functions. Banks that function as dealers need audit coverage sufficient to assess other risks associated with these businesses. For all financial derivatives users, the audit scope should include an appraisal of the soundness and adequacy of accounting, operating, legal, and risk controls. The audit scope also should include testing for irregularities and compliance with the bank's policies and procedures.

As with any effective audit program, the audit of financial derivatives activities should be conducted by competent auditors who are both independent of the business unit being audited and yet knowledgeable of the risks unique to that unit. The level of auditor expertise should be consistent with the level of activity and degree of risk assumed by the bank with respect to its derivatives activities.

B. Market Risk Management

1. Dealers and Active Position-Takers

National banks whose financial derivatives activities involve dealing or active position-taking should have risk measurement systems that can quantify risk exposures arising from changes in market factors. Those systems should be structured to enable management to initiate prompt remedial action. The systems also should facilitate stress

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testing and enable management to assess the potential impact of various changes in market factors on earnings and capital.

The bank should evaluate risk exposures under various scenarios that represent a broad range of potential market movements and corresponding price behaviors and that consider historical and recent market trends. Statistical analyses should be used to characterize market scenarios and price behaviors. Before they are used, and whenever market conditions change significantly, the analyses should be validated by a source independent of the trading desk or risk assumption unit. At a minimum, all risk measurement applications and models should be reviewed and validated annually, and management should maintain adequate documentation to support the reliability of the validation process.

The frequency with which exposures should be evaluated varies by the nature and size of a bank's financial derivatives activities. For dealing and trading units, such evaluations should be available on a daily, and even intra-day, basis. For banks actively using derivatives as part of their overall risk management, less frequent evaluations may be sufficient.

At some national banks, financial derivatives activities span numerous products, markets, currencies, and geographic regions. These activities may be conducted in numerous profit centers or branches and may be managed on a decentralized basis. At a minimum, such banks should be able to measure their derivatives-related risks for each major portfolio, branch, and profit center. In addition, bank management should develop the ability to aggregate such risks across various profit centers and branches to determine the aggregate risk profile of the institution. The OCC recognizes that developing such consolidated risk measurement systems may require significant time and resources. However, given the complexity, potential volatility, and size of risk exposures in derivatives positions, the OCC believes that such capabilities are necessary for banks that are dealers and/or active position-takers in derivatives transactions.

2. Limited End-Users

A bank whose derivatives activities are limited in volume and confined to risk management activities may need less sophisticated risk measurement systems than those required by a dealer or active position-taker. Senior management at such a bank should

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ensure that all significant risks arising from their derivatives transactions can be quantified, monitored, and controlled. At a minimum, risk management systems should evaluate the possible impact on the bank's earnings and capital which may result from adverse changes in interest rates and other market conditions that are relevant to the bank's risk exposure and the effectiveness of financial derivatives transactions in the bank's overall risk management.

Each financial derivatives transaction should have a clear objective that is consistent with the bank's overall risk management objectives and strategies. Further, the bank's risk measurement systems should be capable of demonstrating the effectiveness of derivatives transactions in achieving such objectives.

C. Credit Risk Management

Credit risk management should parallel the prudent controls expected in traditional lending activities. Policies and procedures should be formalized to address concerns such as significant counterparty exposures, concentrations, credit exceptions, risk ratings, nonperforming contracts, and allowance allocations. Timely, meaningful reports should be generated and distributed consistent with policy and procedure requirements.

Credit exposures to an individual counterparty, which are significant in size relative to capital, should be addressed in the bank's credit risk policy. Bank management should establish internal limits that are prudent in light of the bank's financial condition and management's expertise. The Board of Directors' risk tolerance for concentrations and credit exceptions should be reflected in policies and procedures. Policies addressing credit management functions, such as risk ratings, nonperforming contracts, and allowance allocations, should be consistent throughout the bank.

Senior management should receive reports that document line usage by significant counterparties and new credit relationships. Such reports should consolidate derivatives credit exposure with all other lending exposure the bank might have to a particular customer.

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1. **Credit Approval Function**

To ensure safe and sound management of derivatives credit risk exposure, bank management should make sure that credit authorizations are provided by personnel independent of the trading unit. Credit officers should be qualified to identify and assess the level of credit risk inherent in a proposed derivatives transaction. Approving officers also should be able to identify if a proposed derivatives transaction is consistent with a counterparty's policies and procedures with respect to derivatives activities, as they are known to the bank.

Derivative credit lines should be approved using the same credit discipline as credit exposures arising from traditional lending products. Credit should be approved by a level of senior management sufficient to ensure consistency with corporate objectives. Banks that function as dealers should ensure that personnel approving credit lines for financial derivatives transactions do not have any trading authority or any reporting responsibility to trading unit management. Credit analysis supporting credit lines and sub-limits should be performed before financial derivatives transactions are executed. This analysis should parallel analysis conducted in connection with traditional extensions of credit.

Credit officers should be able to effectively analyze the impact of proposed derivatives activities on the financial condition of the customer. The availability and impact of credit exposure reduction techniques, such as netting arrangements and collateral agreements, also should be considered. Consistent with good practice in traditional lending, the creditworthiness of the counterparty should be assessed periodically throughout the life of the derivatives transaction.

The credit officers responsible for establishing and changing financial derivatives credit lines should understand the applicability of financial derivatives instruments to the risks the bank customer is attempting to manage. When the bank believes a particular transaction may not be appropriate for a particular customer, but the customer wishes to proceed, bank management should document its own analysis and the information provided to the customer.

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2. **Pre-Settlement Risk**

The system a bank uses to quantify pre-settlement credit risk exposure should take into account current exposure ("mark-to-market") as well as potential credit risk due to possible future changes in applicable market rates or prices ("add-on"). That system should use a reliable source for determining the credit risk factor used to calculate the credit risk add-on.

This methodology should produce a number representing a reasonable approximation of loan equivalency, that is, the amount of credit exposure inherent in a comparable extension of credit. The mark-to-market calculation should incorporate the same controls as the mark-to-market calculation used to identify profits and losses. Prices should be obtained independently from qualified sources on a periodic basis, the frequency of which should be determined by the extent and type of a bank's financial derivatives activities. The bank's traders should not be used as the source of market valuations unless an independent unit (risk management and/or operations) verifies the traders' input against published quotes.

The credit risk add-on should determine the potential for future increases in credit exposure based on the likelihood that market rates or prices will change over the life of a contract. Although the methodology used to calculate this exposure should be consistent with that used for calculating market risk, the credit risk add-on calculation differs in at least one significant aspect. Specifically, the time horizon for market risk is the time it would take to offset or close-out a position, whereas the time horizon for credit risk appropriately is the remaining life of the contract because default could occur at any time during the remaining life.

Correlations among off-setting or matched positions with a single counterparty can reduce the overall potential for future credit exposure to that counterparty, but determining the extent of such reductions generally requires sophisticated simulation analysis. Consequently, if a bank adjusts for such correlations when summing and evaluating counterparty credit exposures, the simulation analysis supporting any such adjustment should be available to bank examiners.

The sophistication of a bank's credit risk measurement system should be consistent with the level of activity and degree of risk assumed by the bank in its derivatives activities. Banks active in derivatives transactions should have internal systems to determine potential credit

risk. Limited end-users may rely on estimates from dealers or other third party sources, provided the sources are independent of the bank's counterparty.

3. Settlement Risk

A bank's system for managing counterparty credit risk should address settlement risk.

Settlement risk can be defined as the risk a bank faces when it has performed its obligations under a contract, but has not yet received value from its counterparty. The time horizon for settlement risk is typically very short (less than 24 hours). Bank management should establish limits and monitoring procedures for settlement risk exposures. Settlement risk limits should be established separately from pre-settlement credit limits and should consider the bank's capital adequacy, operations efficiency, and credit analysis expertise. Because settlement risk becomes credit risk if the counterparty defaults during the settlement cycle, the ability of bank management to limit this exposure should be the key determining factor in establishing settlement limits. Monitoring reports should provide sufficient detail to identify credit risk arising from settlement versus pre-settlement exposure.

4. Credit Risk Monitoring

Credit risk monitoring should be independent of the units that create financial derivatives exposures. This risk monitoring unit should be responsible for producing and distributing timely, accurate information about credit exposures such as line usage, concentrations, credit quality, limit exceptions, and significant counterparty exposures. Credit exposure reports should provide aggregate information about the bank's credit risk to a given counterparty (including products such as loans, securities underwritings and other traded products). The risk monitoring unit should ensure that appropriate levels of senior management and the Board of Directors receive relevant information about credit exposure arising from derivatives activities on a periodic and timely basis.

The methodology the bank adopts to measure and monitor credit risk should be controlled by personnel independent of the trading unit. As with the methodologies used to measure mark-to-market value and potential market risk exposure, it is important that the assumptions and

variables used in such models be kept current. Periodic validation should be an integral part of this process.

D. Liquidity Risk Management

Bank management should establish effective controls over the liquidity exposure arising from financial derivatives activities. Key principles in the governance and management of this risk are diversification and communication.

With respect to financial derivatives products, liquidity risk takes two forms: market/product liquidity and cash flow. If there is insufficient market activity or prices are not available, a bank risks loss due to its inability to exit or unwind a position. The inability to meet cash flow obligations at an acceptable price as they become due may also present a risk of loss.

Management of the liquidity exposure resulting from financial derivatives activities should be an integral part of day-to-day operations, as well as contingency and liquidity planning processes. The depth and formality of management systems governing this risk should reflect the volume and complexity of activities undertaken and the overall liquidity of the bank.

1. Market/Product Liquidity Risk

Exposure to market/product liquidity risk should be formally addressed within market risk limits. Diversification policies specifically addressing known or potential liquidity problems also should be implemented. Limits should be designed to trigger management action and control loss. Quality and timely communication also should be an integral part of a bank's risk management culture.

Effective market risk exposure limits should incorporate orderly liquidation periods based on the length of time required to hedge or liquidate a position under normal market conditions. When markets or products are illiquid and there is little variety or depth to hedging alternatives, market and credit exposure measures should be based on longer time frames.

Communication and management/trader action are important during periods of illiquidity. A policy in which traders communicate early warning signs to risk control units is critical. At a minimum, traders should routinely report instances of unusually wide spreads and the absence of regular market participants.

Operating procedures should require traders to alert line and risk control units to early market indicators of resistance to the bank or to significant counterparties, as well as resistance with respect to particular products or maturities, or by particular markets or geographic regions.

2. Cash Flow/Funding Liquidity Risk

A bank should have liquidity policies to formally govern its exposure to cash flow gaps (from intermediate payments or settlements) arising from financial derivatives activities.

Controls over a bank's current and projected liquidity positions should include limits on cash flow gaps, in the aggregate and by currency. Based on the bank's organizational structure, it also may be appropriate to establish such limits according to legal or geographic entities, as well as on a firm-wide basis.

Banks engaged in significant financial derivatives trading activities should consider having an internal transfer pricing system that incorporates an appropriate "charge" for liquidity usage. Such a charge could help provide financial derivatives users with the appropriate economic incentive to manage their cash flow gaps and funding requirements according to overall organizational needs and strategies.

The limits previously discussed for controlling market/product liquidity risk also should assist in diversifying cash flows and avoiding concentrations around specific dates, within specific time periods, and by currency, product, or customer.

3. Early Termination Arrangements and Credit Enhancements

Policies should control the bank's exposure arising from early termination arrangements, as well as collateralization or other credit enhancements.

Banks should carefully evaluate the risks of entering into agreements governing their financial derivatives transactions that include provisions allowing a counterparty to terminate the agreement or liquidate outstanding transactions upon a deterioration in the bank's financial condition. Even absent such provisions, counterparties may request a bank that is experiencing real or perceived problems to unwind financial derivatives transactions before they mature. Bank policy should formally address how such requests will be handled, because in either situation, the early termination of trades may result in an undesired cash outflow and an increase in market risk at the least opportune time.

Banks' policies also should limit the amount of assets that may be encumbered by collateral arrangements or other credit enhancements triggered by a deterioration in the bank's financial condition. In developing such limits, a bank should consider potential exposures and alternative financing sources to meet liquidity requirements under a series of successive declines in its credit standing.

4. Monitoring

Banks should have management information systems that permit daily monitoring of liquidity positions relative to limits. These reports should be prepared by an area or employee(s) independent of the trading unit.

Information reflecting current and prospective cash flows from financial derivatives activities should be included in bank-wide liquidity management processes and contingency funding plans. Reports showing actual positions relative to diversification limits also should be readily available for management's review.

The frequency with which reports are prepared should be based on the relative risk exposures of a bank's activities, as well as its liquidity needs. Such information should be provided to trading, risk control, and funding units.

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BANKING ISSUANCE

Comptroller of the Currency
Administrator of National Banks

Type: Banking Circular Subject: Risk Management of Financial Derivatives

E. Operations and Systems Risk Management

The Board of Directors and senior management should ensure the proper dedication of resources (financial and personnel) to support operations and systems development and maintenance. The operations unit for financial derivatives activities, consistent with other trading and investment activities, should report to an independent unit, and should be managed independently of the business unit. The sophistication of the systems support and operational capacity should be commensurate with the size and complexity of the derivatives business activity.

To ensure effective transaction processing, exposure and profit and loss reporting, valuation of positions and documentation, the operations unit should be independent of the business unit.

Systems support and operational capacity should be able to adequately accommodate the types of financial derivatives activities in which the bank engages. This includes the ability to efficiently process and settle the volume of business transacted through the business unit, to provide support for the complexity of the transactions booked, and to provide accurate and timely input. Support systems and the systems developed to interface with the official databases should generate accurate information sufficient to allow business unit management and senior management to monitor risk exposures in a timely manner.

Systems needs and adequacy for financial derivatives activities should be evaluated during the strategic planning process. Current and projected volume should be considered together with the nature of the derivatives activity and the user's expectations. Consistent with other systems plans, a written contingency plan for financial derivatives products should be in place.

1. Quality of Personnel

Senior management should recognize the need for, and devote appropriate resources to, employing knowledgeable and experienced personnel in the operations area.

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Although organizational structures may vary from one bank to another, trading operations should report to high-level management. This assures that senior management is aware of significant operational risks. With the complexity of financial derivatives products and the size and rapidity of transactions, it is essential that operational units be able to capture all relevant details of trades, identify errors, and process payments or move assets quickly and accurately. This requires a staff of sufficient size, knowledge and experience to support the volume and type of transactions generated by the business unit.

Management should develop appropriate hiring practices and compensation plans to recruit and retain high caliber staff.

2. Systems

Systems design and needs may vary according to the size and complexity of a bank's financial derivatives business. However, each system should provide for accurate and timely processing and allow for proper risk exposure monitoring.

Operational systems should be tailored to each bank's needs. Limited end-users of financial derivatives may not require the same degree of automation needed by more active trading and position-taking banks. However, all operational systems and units should adequately provide for basic processing, settlement, and control of derivatives transactions.

The more sophisticated the bank's activity, the more need there is to establish automated systems to accommodate the complexity of the deals transacted, to accommodate the volume of trades conducted, and to reconcile more efficiently and report position information accurately.

It is appropriate for front and back office systems to become more highly integrated as the bank's financial derivatives activities expand.

3. Segregation of Duties

Segregation of operational duties, exposure reporting, and risk monitoring from the business unit is critical to proper internal control.

To provide proper control over the recordation, settlement, and monitoring of the financial derivatives business activities, operational duties should be segregated and managed independently from the business unit. Proper internal control should be provided over the entry of deals into the database, transaction numbering, date and time notation, and the confirmation and settlement processes. Operational controls also should be in place to resolve disputes over contract specifications. In this regard, banks which act as dealers of derivatives transactions should consider employing recorded telephone lines for both dealing and operational units.

The operations department, or another unit or entity independent of the business unit, should be responsible for ensuring proper reconciliation of front and back office databases on a regular basis. This includes the verification of position data, profit and loss figures, and transaction-by-transaction details.

4. . Valuation Issues

Banks that engage in financial derivatives activities should ensure that the methods they use to value their derivatives positions are appropriate and that the assumptions underlying those methods are reasonable.

Dealers and active position-takers should have systems that accurately measure the value of their financial derivatives portfolios. The pricing procedures and models the bank chooses should be consistently applied and well-documented. Models and supporting statistical analyses should be validated prior to use and as market conditions warrant.

The best approach is to value derivatives portfolios based on mid-market levels less adjustments. Adjustments should reflect expected future costs such as unearned credit spreads, close-out costs, investing and funding costs, and administrative costs. Most limited end-users (and some traders) may find it too costly to establish systems that accurately measure the necessary adjustments for mid-market pricing. In such cases, banks may price derivatives based on bid and offer levels, provided they use the bid side for long positions and the offer side for short positions. This procedure will ensure that financial derivatives positions are not overvalued.

Banks adopting mid-market pricing should recognize that mid-market prices are not observable for many instruments. In those cases, banks should derive unbiased estimates of market prices from prices in similar markets or from sources that are independent of the bank's traders. The bank's operations staff should develop procedures to verify the reasonableness of all pricing variables or, if that is not possible, should limit the bank's exposure through position or concentration limits and develop appropriate reporting mechanisms.

Traders may review and comment on prices. When material discrepancies occur, senior management should review them. If, in an extenuating circumstance, senior management overrides a back office estimate, it should prepare a written explanation of the decision.

5. Documentation

Bank management should ensure a mechanism exists whereby financial derivatives contract documentation is confirmed, maintained, and safeguarded. Documentation exceptions should be properly monitored and resolved.

Controls must be in place to ensure that the appropriate contract documentation is timely and properly executed and maintained. The bank should establish a process through which documentation exceptions are monitored and appropriately reviewed by senior management and legal counsel. Banks with more active derivatives businesses should consider establishing a separate documentation unit to control financial derivatives contracts and supporting documents. Such a unit may be part of a broader documentation unit or the legal department.

F. Legal Issues

Prior to engaging in derivatives transactions, a national bank should reasonably satisfy itself that its counterparties have the legal, and any necessary regulatory, authority to engage in those transactions. In addition to determining the authority of a counterparty to enter into a derivatives transaction, a national bank also should reasonably satisfy itself that the terms of any contract governing its derivatives activities with a counterparty are legally sound.

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Participants in the financial derivatives markets have experienced significant losses because they were unable to recover losses from a defaulting counterparty when a court held the counterparty had acted outside of its authority in entering into such transactions. National banks, especially dealers, should ensure that their counterparties have the power and authority to enter into derivatives transactions, and that the counterparties' obligations arising therefrom are enforceable. Similarly, a national bank also should ensure that its rights with respect to any margin or collateral received from a counterparty are enforceable and exercisable. The bank should be able to be use such margin or collateral to offset actual losses upon the default of the counterparty.

A national bank also should reasonably satisfy itself that the terms of any contract governing its derivatives transactions with a counterparty are legally sound. This is especially important with respect to provisions governing (i) the timing of the termination of outstanding transactions and (ii) the calculation of settlement amounts payable to or between parties upon the termination of a transaction or an agreement.

1. Bilateral Netting

In order to reduce counterparty credit exposure, a national bank should use master close-out netting agreements with its counterparties to the broadest extent *legally enforceable*, including in any possible insolvency proceedings of such counterparties. However, the reliance upon such agreements where the enforceability of such agreements against a particular counterparty has not been legally established should be considered carefully and will be scrutinized closely by the OCC.

In the United States the enforceability of bilateral close-out netting arrangements for various derivatives transactions in the insolvency proceedings of U.S. counterparties is almost certain. The advantages of such netting arrangements include a reduction in credit and liquidity exposures, the potential to do more business with existing counterparties within existing credit lines, and a reduced need for collateral to support counterparty obligations. National banks, therefore, gain substantial potential benefits by documenting their relationships in master agreements that contain close-out netting provisions.

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The enforceability of such provisions against many foreign counterparties or U.S. branches or offices of some foreign counterparties, however, is less certain. National banks that rely on netting arrangements with such counterparties may understate credit and liquidity exposures. As a result, they may improperly monitor and control that exposure, assume unintended credit risk, and increase systemic risk.

Only when the enforceability of close-out netting arrangements with counterparties has a high degree of certainty should national banks monitor their credit and liquidity risks, and account for financial derivatives transactions with such counterparties, on a net basis.

2. Multilateral Netting

A national bank should determine credit and liquidity exposure and account for financial derivatives transactions on a multilaterally-netted basis only if cleared through a clearinghouse, organization, or facility that meets the conditions set forth in the *Report of the Committee on Interbank Netting Schemes of the Central Banks of the Group of 10 Countries*, Bank for International Settlements, Nov. 1990 ("Lamfalussy Report").

Under a multilateral netting facility, a central counterparty or clearinghouse is designated as the common legal counterparty for each participant in the facility. The reductions in credit risk resulting from a well-designed facility can be substantial and, generally, the OCC encourages the development of such arrangements.

In order to provide the highest level of certainty with respect to (i) the enforceability of the obligations of the participants, (ii) the ability of the system to freely and promptly exercise the right of set-off with respect to any property deposited with the system by a defaulting participant as security for its obligations, (iii) limitations on the obligations of non-defaulting participants to cover the losses arising out of defaulted transactions, and (iv) the financial integrity of the system as a whole, national banks should only participate in multilateral netting facilities that meet the conditions set forth in the Lamfalussy Report.

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3. **Physical Commodity Transactions**

National banks may engage in physical commodity transactions in order to manage the risks arising out of physical commodity financial derivatives transactions if they meet the following conditions:

- **Any physical transactions supplement the bank's existing risk management activities, constitute a nominal percentage of a bank's risk management activities, are used only to manage risk arising from otherwise permissible (customer-driven) banking activities, and are not entered into for speculative purposes; and**

- **Before entering into any such physical transactions, the bank has submitted a detailed plan for the activity to the OCC and the plan has been approved.**

The OCC has concluded that a national bank may engage in physical commodity transactions in order to manage the risks arising out of physical commodity financial derivatives transactions. However, given the potential additional risks associated with physical hedging activities, a national bank must first develop a detailed plan, which should be approved by the bank's Board of Directors and the supervisory staff of the OCC, before the bank begins engaging in such activities. Requests for plan approval must be submitted to: Senior Deputy Comptroller for Bank Supervision-Operations, Office of the Comptroller of the Currency, Washington, D.C. 20219.

Upon OCC approval, a national bank may engage in such activities only under the conditions specified above and in accordance with safe and sound banking practices.

Financial derivatives transactions with respect to bank-eligible precious metals (gold, silver and platinum) are not subject to this guideline.

G. Capital Adequacy

The Board of Directors should ensure that the bank maintains sufficient capital to support the risk exposures (*e.g.*, market risk, credit risk, liquidity risk, operation and systems risk, etc.) that may arise from its derivatives activities. Significant changes in

the size or scope of a bank's activities should prompt an analysis of the adequacy of the amount of capital supporting those various activities by senior management and/or the Board of Directors. This analysis should be approved by the Board of Directors and be available for bank examiner review. In addition to internal reviews of capital adequacy, senior management should ensure that the bank meets all regulatory capital standards for financial derivatives activities.

Under current risk-based capital requirements national banks must hold capital for counterparty credit risk exposures in financial derivatives contracts. These requirements are specified in 12 CFR 3 Appendix A. The OCC is developing additional capital requirements for banks' interest rate exposures which would include requiring capital to cover interest rate risk exposures arising from financial derivatives positions. As these and any other modifications or additions to capital requirements are adopted, bank management must ensure that all financial derivatives activities are properly incorporated into their minimum capital levels.

H. Accounting

Accounting guidance for financial derivatives instruments is not comprehensive. Generally accepted accounting principles (GAAP) include definitive accounting standards only for futures contracts. Regulatory accounting principles (RAP), set forth in the *Instructions to Consolidated Reports of Condition and Income*, address only futures, forwards, and options. Due to the lack of comprehensive GAAP or RAP guidance for all derivatives, inconsistent accounting practices have developed for some products.

The OCC is currently studying the issue of accounting for financial derivative instruments. A consistent regulatory accounting policy will be developed for all derivative products. That policy will consider the impact of accounting rules on business decisions, with a view to minimizing regulatory burden, and will be a cooperative effort with the other U.S. banking agencies. In the interim, each bank should review its accounting practices and documentation to ensure consistency with the strategies and objectives approved by its Board of Directors.

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RESPONSIBLE OFFICE

Questions or concerns regarding this banking circular or the information it contains should be directed to: Capital Markets Division, Office of the Chief National Bank Examiner, (202) 874-5070.

Douglas E. Harris
Senior Policy Advisor to the Comptroller

Comptroller of the Currency
Administrator of National Banks

Washington, D.C. 20219

December 23, 1993

The Honorable Richard Baker
U.S. House of Representatives
Washington, D.C. 20515

Dear Congressman Baker:

I am pleased to respond to the questions that you asked in the course of the October 28, 1993 House Banking Committee hearing on the safety and soundness issues associated with bank derivatives activities.

If I can be of any further assistance, please do not hesitate to contact me.

Sincerely,

Eugene A. Ludwig
Comptroller of the Currency

Enclosure

RESPONSES TO QUESTIONS POSED BY REPRESENTATIVE BAKER DURING THE OCTOBER 28, 1993 HEARING ON THE SAFETY AND SOUNDNESS ISSUES ASSOCIATED WITH BANK DERIVATIVES ACTIVITIES

1. **Mr. Baker is concerned about a provision in Section C.1 of BC-277 that he believes creates a "look before you leap" concept which goes a little too far "by requiring the bank board to document that they are not guilty in the event the acquirer [of the derivative] later suffers a loss as a result of that purchase." Mr. Baker believes that, as a result, bank directors or bank officers may be held responsible for losses of third parties, or for profit opportunities that are missed by third parties because the third party was dissuaded from a transaction.**

   Mr. Baker believes that individuals should be allowed to make their own assessment of risk based upon pre-purchase and pre-settlement disclosures, rather than have a regulatory policy saying that any product is not suitable.

Section C.1 of the OCC's Banking Circular 277 states that bank credit officers should be able to identify if a proposed derivatives transaction is consistent with a counterparty's policies and procedures for derivatives activities, as they are known to the bank. Section C.1 goes on to state that credit officers should be able to analyze the impact of the proposed derivatives activities on the customer's financial condition, and should understand the applicability of financial derivatives instruments to the risks that the customer is attempting to manage.

This provision is a reasonable part of guidance to banks selling over-the-counter financial derivatives instruments. Over-the-counter transactions are custom-tailored to the individual customer's financial position and its specific risk-management objectives. Evaluating the customer's trading policies, financial situation, and risk profile is an integral part of structuring a derivatives contract that meets the customer's needs.

The OCC's guidance recognizes that buyers of over-the-counter financial derivatives instruments need to possess some degree of sophistication in order to understand those transactions. Most end-users of financial derivatives instruments are sufficiently sophisticated to understand the appropriateness of a particular transaction for its risk management purposes. Section C.1 provides an added measure of assurance in this regard by recognizing the obligation of bank dealers to assess their clients' sophistication and their understanding of the derivatives transactions that they propose to enter into.

Furthermore, a customer's ability to perform in a derivatives transaction depends, in part, on the appropriateness of the transaction to the customer's financial situation and its

business practices and objectives. Banking Circular 277 provides guidance to the bank's credit officers who establish the credit lines of individual customers. In this respect, it is broadly analogous to the responsibility of credit officers to evaluate a borrower's ability to repay before making a traditional bank loan.

Banking Circular 277 does not prohibit a bank from carrying out a transaction that it believes may be inappropriate for a particular customer. In such circumstances, the Circular requires only that the bank document its own analysis and the information provided to the customer. The ultimate decision is left to the end-user based upon the disclosures it receives and the discussions it has with the bank. Thus, OCC policy stops short of establishing a suitability standard that would be analogous to the standard that applies to the sale of securities by securities dealers.

It is conceivable that a customer who has been discouraged from purchasing a financial derivatives instrument could seek damages for forgone gains. The likelihood of consumer complaints is certainly no greater in these circumstances, however--and probably much less--than if it had failed to warn the customer and the customer subsequently lost money on the transaction.

2. Seeing a possible need for further legislation, Mr. Baker would like to know where, under current U.S. Code, master netting agreements may not be legally enforceable and where correction in the Code may be required.

The enactment of the Financial Institutions Reform, Recovery, and Enforcement Act of 1989 (FIRREA), the Federal Deposit Insurance Corporation Improvement Act of 1991 (FDICIA), and the 1990 amendments to the Bankruptcy Code have brought near certainty on the issue of the enforceability of bilateral close-out netting arrangements with respect to various financial derivatives instruments in the insolvency proceedings of U.S. counterparties. The provisions of FIRREA established, among other things, the enforceability of the netting provisions of master agreements with respect to "qualified financial contracts" (as that term is broadly defined) in the insolvency proceedings of an insured depository institution. Subsequently, the 1990 amendments to the U.S. Bankruptcy Code extended to "swap agreements" (also broadly defined) the protections of avoidance of (i) "cherry-picking" by a trustee in bankruptcy and (ii) the "automatic stay" upon the filing of a petition in bankruptcy, both of which had previously been afforded to forward contracts. Finally, sections 401-407 of FDICIA validated the netting of bilateral and multilateral payment obligations by and among "financial institutions" (as that term is defined therein and by regulation of the Federal Reserve Board) pursuant to a netting contract.

Notwithstanding the above-referenced changes, various commentators have noted that there is some uncertainty regarding the enforceability of netting arrangements.[1] This uncertainty exists primarily with respect to transactions that are not enumerated within the definition of "swap agreement" for purposes of the Bankruptcy Code and FIRREA (such as spot foreign exchange agreements and equity derivatives),[2] and for which the netting provisions of FDICIA are not applicable.[3] Unlike FDICIA where the definition of "netting contract" is not tied to any particular transactions, the definitions of "swap contract" under FIRREA and the Bankruptcy Code are tied to a set of enumerated transactions and "any other similar agreement." While one could argue that transactions such as spot foreign exchange contracts and equity derivatives are "other similar agreements" for purposes of the definition of "swap agreement" under FIRREA and the Bankruptcy Code, we are not

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[1] See, e.g., Cravath, Swaine & Moore, "Enforceability Survey -- United States," Derivatives: Practices and Principles -- Appendix II: Legal Enforceability: Survey of Nine Jurisdictions, pp. 291-313, published by the Group of Thirty, Washington, D.C. (July 1993) ("The Group of Thirty Survey"), and Grosshandler, "Insolvent Counterparties: Too Hot To Handle -- United States," International Financial Law Review, pp. 22-23 (October 1992).

[2] See 11 U.S.C. § 101(55) and 12 U.S.C. § 1821(e)(8)(D)(vi), respectively.

[3] Such as, for example, where one or both of the counterparties are not "financial institutions."

certain that such an argument would prevail in court.[4] It should be noted, however, that at least one law firm has concluded that if such transactions are not considered "swap agreements," then they would be considered either "forward contracts" or "securities contracts", which are provided with treatment similar to that of "swap agreements" under FIRREA and the Bankruptcy Code.[5]

The uncertainty that arises with respect to the definition of "swap agreement" increases where transactions that qualify as a swap agreement are documented under a single master agreement with transactions that do not qualify as swap agreements. As one legal commentator has noted:

> Sections 362(a)(7) and 553 of the U.S. Bankruptcy Code . . . could delay the ability of a party to net across product types once . . . final net amounts owed by or to a counterparty are reached for the swap agreements, forward contracts and securities contracts documented under a master agreement since those Sections stay the set-off of mutual debts after the commencement of a bankruptcy case, and there is no applicable exception to the automatic stay that would allow the set-off against each other of amounts owed under these three types of transactions. . . .
>
> If a derivatives dealer reaches the point where it has determined that three net amounts are owed by or to a counterparty and that the operation of the automatic stay is delaying further set-off, then uncertainty exists whether a master agreement under which swap agreements, forward contracts and securities contracts are documented should be treated as one agreement so that a court would give effect to the close-out termination provisions of such master agreement to reach one net number either owed to or by the nonbankrupt party.[6]

Similarly, under FIRREA, a dealer may face the risk of selective repudiation among separate qualified financial contracts if it does not persuade a receiver or conservator that all transactions under a master agreement are "swap agreements."[7] This risk may be diminished, however, if the master agreement contains a provision that provides a basis for terminating all transactions under the master agreement if there is an attempt to repudiate any of the transactions documented thereunder.[8]

Based on the uncertainty that remains with respect to netting arrangements, notwithstanding

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[4] Group of Thirty Survey at p. 304.

[5] Id.

[6] Id.

[7] Id. at p. 305.

[8] Id.

the improvements made by FIRREA, FDICIA and the 1990 amendments to the Bankruptcy Code, the OCC believes it would be useful to conform these various netting standards to a single standard. The object would be to confirm that parties to a master agreement may close-out and promptly terminate a master agreement under which not only "swap agreements" but also "securities contracts," "forward contracts," and similar agreements are documented. Such a change would be consistent with Congress's most recent legislation on netting in FDICIA, which did not tie the validation of "netting contracts" to any particular type of transaction.

CLIFFORD GRIEP

Supplemental material in response to questions posed during the hearing.

Question #1: "how would you more precisely evaluate the range of involvement?"

Derivative exposures are captured and measured in a variety of ways. The written testimony and exhibits provides the details supporting the methods of evaluation used by S&P. From the publicly available information we track exposures by notional amount, and more importantly, by mark to market replacement value by broad product type as provided in the bank regulatory and SEC disclosure documents. We also track trading revenue, where most of the income from derivatives activity is reported. We also evaluate management supplemental information, as provided by annual reports and analysts presentations, on the nature of their derivative activities, and the risk management practices and capabilities. In our reviews with management we request and or discuss information on the credit and maturity structure of derivative counterparty exposure, concentrations in counterparty exposure, breakdowns of trading revenue by product, and market, and by customer driven versus proprietary activity, derivatives related revenue which does not appear on the trading line, risk management methodologies and processes as they relate to derivatives, specifically market stress testing used to determine value at risk, including relative risk model inputs of volatility and correlation, and various portfolio effect demonstrated through simulations; procedural, operational, and organizational issues surrounding the risk management process, including the use limits and control, accounting treatments, valuation and reserve policies, management oversight and audit function procedures, and various liquidity, funding, and capital risks related to derivative operations. There are also broader discussions about managements tolerance for risk in this area, and competitive issues related to market position, advantages and disadvantages, pricing and profit margins, management capabilities, and past performance and expected performance. Collectively, due to the complexity of the business, we rely more on managements detailed, voluntary disclosures then on the information available in public releases.

Question #2: "reaching the danger point?"

Derivative operations impact credit in a variety of ways. The broadest answer to when a bank rating would change in response to derivative activities is when the risk of derivatives increases disproportionately to the earnings, capital, and liquidity protecting creditors against that risk, or when the risks of derivatives appear to managed insufficiently so as to provide adequate safeguards to creditors. As the banking industry, and banks which act as dealers in derivatives, represent a range of creditworthiness and ratings, the tolerance for additional risk relative to earnings and capital, and the tolerance for control related weaknesses is relative.

The risk is measured in several ways, as is the managements tolerance for risk. Both are reviewed regularly relative to earnings, capital, and liquidity. Any factor which increases risk, most notably the ones cited in the written testimony including extending business to lower quality customers without collateral protection, a shift to proprietary from customer driven activities, and declining profit margins in the derivatives business due to increasing competition would all be negative credit pressures. Also, due to the complex nature of this business and the importance of management risk control capability, control weaknesses or occurrences outside expected ranges in either exposure or in financial performance, could lead to downgrades.

WALL STREET JOURNAL

CFTC Ducks the Issue of How to Regulate Derivatives

By Christi Harlan
Staff Reporter of The Wall Street Journal

The Commodity Futures Trading Commission, in its newly released study of privately traded derivatives, ducked the thorny issue of how to regulate this booming and controversial market.

The report, one of several derivatives studies presented by regulators and industry participants this year, echoes the conclusions of the earlier releases. The report's summary judgment was that "no fundamental changes in regulatory structure appear to be needed at this time" for derivatives. Instead, it recommended "greater coordination among federal financial regulators [to] help assure that federal oversight remains adequate."

Derivatives are financial arrangements whose values derive from some underlying asset, such as stocks, bonds, currencies or commodities. So-called over-the-counter derivatives are traded privately among banks and their large customers – mainly corporations and big institutions – and essentially are exempt from regulation. The CFTC, meanwhile, regulates certain exchange-listed derivatives contracts, including financial futures and commodity futures.

In struggling to come to grips with the multitrillion-dollar market in private derivatives contracts, U.S. regulators have been frustrated by the fact that these instruments fall under nobody's clear jurisdiction. Because they combine traditional assets in complex, new ways, they span territory policed not only by the CFTC, but also by federal banking, securities and insurance regulators. And the highly flexible, global nature of the derivatives markets means that any crackdown by U.S. regulators would risk merely driving that activity beyond their reach into offshore markets, said John M. Damgard, president of the Futures Industry Association, a Washington trade group.

Meanwhile, the House Banking Committee, under Chairman Henry Gonzales (D., Texas) will open its round of inquiry into the derivatives market tomorrow. Among those scheduled to testify are the CFTC's acting chairman, Sheila Bair, as well as Securities and Exchange Commissioner J. Carter Beese Jr.

The CFTC study suggested that President Clinton appoint a multiagency panel to examine, among other things, how existing securities and banking laws might be used to force greater disclosure by derivatives dealers and other market participants. That recommendation follows a similar request for a multiagency panel issued last month by the comptroller of the currency, Eugene Ludwig.

The CFTC said its study was hampered by a lack of readily available and easily comparable information about the derivatives market.

"It's very difficult to obtain some very basic information about OTC derivatives," said Susan Ervin, chief counsel in the agency's division of trading and markets.

'Information Access'

"Information access" topped the CFTC's list of suggested agenda items for the inter-agency council. The commission also called for more scrutiny of concentrations of positions among the big market players; the linkages between derivatives and exchange-traded products; and pricing, disclosure and risk valuations by market participants.

But the agency's passivity may be partly attributable to its political weakness. The commission comprises two members currently, both Republicans, and hasn't had a full complement of five commissioners since early January. The White House hasn't given any indication of when appointments might be forthcoming.

Ms. Bair conceded that the CFTC's conclusions and recommendations "could change" under a Democratic chairman, but she said she couldn't be more specific "without knowing who the new chairman is going to be."

Meanwhile, the SEC's Mr. Beese, in comments prepared for a derivatives conference today, disputed critics who have called derivatives "the next S&L crisis."

"While there certainly are lessons to be learned from prior experiences, there are 'cops on the beat' with regard to derivatives," Mr. Beese said. The SEC, CFTC, Federal Reserve, Comptroller of the Currency and Federal Deposit Insurance Corp. "all have rigorous regulatory regimes. Our challenge going forward is to coordinate

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Derivatives Latest: CFTC Report Ducks Touchy Issue of Regulation

Continued From Page C1

our efforts so that we have an adequate understanding of the aggregate size of the market and properly identify potential systemic stress points," he added.

The swaps and derivatives industry, which has been trying to avoid additional regulation, views the study as a validation of the derivatives business and its practitioners. "It's good that there is another study to underline the importance of derivatives in managing risk," said Joseph Bauman, head of business development at the derivatives group of Citicorp's Citibank and chairman of the International Swaps and Derivatives Association.

The various studies "force the agencies to take the hard look we want them to take," he said. "A better understanding will benefit this business. It still suffers from a degree of lack of understanding on the part of decision makers."

However, the call for an interagency council among regulators was received coolly by the association, which believes a less formal form of communications would be better suited to handle the tasks.

Others emphasized the need for greater international coordination among regulators. "I think interagency coordination is the answer," says Mr. Damgard of the Futures Industry Association. But he added that the suggestions fall short in failing to include foreign-market representatives. "My members are doing business all over the world," he said. "Regulators need to be very, very conscious of what their counterparts around the world are doing."

Ultimately, the derivatives industry will "no doubt get a regulatory structure different from today," said Thomas Russo, managing director at Lehman Brothers. But he hoped that "it's not so intrusive as to stymie growth."

The CFTC said that it will, for its part, continue to examine proposals from the Chicago Mercantile Exchange and the Chicago Board of Trade to act as clearing facilities for swaps contracts.

—Steven Lipin in New York contributed to this article.

Banks have created more sophisticated forms of swaps , writes **Peter John**

Market regains momentum

TURMOIL within the European exchange rate mechanism has been good news for financial markets throughout the world. It has been especially beneficial to derivatives markets which allow investors to shift large amounts of money easily. The increased volatility, particularly in the currency markets, has encouraged greater use of swaps and options for hedging exposure.

In addition, banks are creating ever more sophisticated types of swaps. The most commonly used swaps are currency swaps and interest rate swaps, which consist of an exchange of liabilities between two counterparties.

Just over a year ago, when the UK and Italy suspended their currencies from the European Monetary System and slashed rates to regenerate their economies, investors and speculators were already looking at the next weak links in the chain. Interest rates in Europe were far higher than in the US but a Europe-wide recession meant that rates in most countries had to come down thus weakening the currency. In the past 12 months, US hedge funds – of which Mr George Soros's Quantum Fund is best known – have been the most active sellers of devaluation-prone currencies, such as sterling, the peseta and the punt. One motive behind hedge fund activity has been to prompt devaluation of a currency and then buy it back at the cheaper rate. Devaluations are not everyday events, however, and more significant is the interplay between nominal interest rates, reflected by government bond prices and foreign exchange values.

This is where swaps come in. For example, a German company might be able to raise funds easily in D-Marks at a floating rate linked to Fibor, the Frankfurt Interbank Offered Rate, but it can get money at a much lower rate in dollars. Meanwhile, US investors are convinced that German rates are coming down and US rates are likely to rise. If interest rates are 9 per cent in Germany and 3 per cent in the US the spread is six percentage points. Three years out the consensus might be that the spread will narrow to two points. The US side offers to take on the German loan over three years at the cost of the two-point spread. If the spread narrows to nothing the US investor will pocket the two-point spread. If the spread widens the German borrower will have saved.

The value is in the spread and the value to the investor who arranges the deal is the disparity of views on what that spread will be. In earlier years, companies could issue fixed-rate bonds and swap the proceeds into floating-rate funds at a level below interbank offered rates. However, increasing participation by sophisticated institutional investors led to a narrowing of swap spreads. In addition, the growing sophistication of swap dealers meant that opportunities were swiftly arbitraged.

Nevertheless, the changes in Europe have sent volumes up by almost 20 per cent according to the most recent data. A survey by Arthur Andersen for the International Swaps and Derivatives Association (ISDA) found that the notional principal value of foreign currency and interest rate swaps outstanding at the end of 1992 reached $4,600bn, an increase of 19 per cent over the previous year. Most of that rise was in the second half of last year and dealers say the trend has continued.

Shifts in the ERM have led to increased volatility which has prompted more sophisticated forms of swaps. In classic marketing tradition, the redefinition of a product from commodity to specialised gives it a new lease of life.

In the case of swaps, an investor taking a view that French interest rates are about to fall will buy French bonds because bond prices will rise. However, the bonds will have to be bought in French francs and if bond prices gain that will reflect a weaker economy which will in turn result in a weaker currency. What is gained in the bond market could be lost on the currency.

Many investors would hedge their currency risks separately but some banks are offering correlation hedging which removes the currency risk. This applies not only to straightforward interest rate swaps but also to equity swaps. Chase Manhattan suggests the example of a UK pension fund which has seen the FT-SE 100 Index reach an historic high while the French CAC-40 index continues to languish around 2,100, creating a spread of 900 points.

If a UK investor believes the spread should be around 600 points he can sell a one-year Footsie contract and buy a one year CAC contract plus a 900-point spread. If the "correlation" is zero after a year the profit will be 900 points. The French contract would normally be paid for in francs thus giving the UK investor an exposure to the French franc. However, with a correlated hedge the CAC contract could be paid for in the client's home currency. This would remove the implicit foreign exchange exposure.

Such is the sophistication that Chase says brokers are trying to trade the correlation or spread on a separate index. Implicit in the contract price is an estimation of some correlation level and if issuers are seen to have that wrong there is an arbitrage possibility. Second, there is a need for book balancing between banks involved principally with issuers and those which are skewed towards investment.

Growing sophistication increases the appeal for dealers and issuers and offers greater variety for corporate borrowers who need to adjust their debts. But for some institutions it is perhaps a disadvantage. Many pension funds are already constrained from making derivative-based deals unless they can provide underlying stock.

WALL STREET JOURNAL, October 27, 1993

Sultan of Swaps

Finance Wizard Scored Mightily in Derivatives But Displeased the Boss

Howard Sosin Refused to Let AIG Official Rein Him In, Now Negotiates 'Divorce'

Taking Risks Out 30 Years

By Greg Steinmetz
And Barbara Donnelly Granito
Staff Reporters of The Wall Street Journal

He's known as the Dr. Strangelove of derivatives.

A former Columbia University professor who arrived on Wall Street by way of AT&T's Bell Laboratories, Howard Sosin has distinguished himself as one of the most brilliant math wizards in finance. An aloof, owlish man, with a relentless competitive drive and fixation on control, he isn't the only "rocket scientist" to have stormed Wall Street in the past decade. But he may be the most controversial.

His success embodies the quantum leap taking place in finance today. "This was the revenge of the nerds," says Andrew Lo, a finance professor at Massachusetts Institute of Technology. "It was a signal that the financial markets have entered a new era – when quantitative expertise is not only useful, it's indispensable."

Regulation Delay

The Commodity Futures Trading Commission, in its newly released study of privately traded derivatives, ducked the thorny issue of how to regulate this booming and controversial market. Article on page C1.

But Mr. Sosin didn't merely ride the quantitative wave; he used its momentum – and his extraordinary freedom from management constraint – to venture where rival math nerds wouldn't go. And while that produced humongous profits, it ultimately made him vulnerable: As the derivatives business has exploded into the mainstream, it has invited regulatory scrutiny and public outcry for more supervision. Now the question facing Mr. Sosin is, can the derivatives business, in its search for respect and credibility, afford entrepreneurs like him?

American International Group Inc., the giant New York insurer and Mr. Sosin's latest partner, evidently doesn't think so. Earlier this year, AIG tried to rein him in. Rather than submit, Mr. Sosin quit – taking with him the venture's software, which

as AIG Financial Products. Just the difference between what he is demanding and what AIG is offering tops $100 million.

While lawyers fight that battle, Mr. Sosin is holed up with his team in a secluded office in Westport, Conn., plotting a comeback. Although the creative brainpower and dazzling computer models he commands are in hot demand on Wall Street, he is basically grounded until he can find another AIG – a powerful financial backer with a top credit rating. So, he is shopping his derivatives know-how in search of a new partner.

Considering Mr. Sosin's history, whoever backs him can count on two things: Mr. Sosin will make a fortune pushing the outer limits of derivatives frontiers. And he won't submit gracefully to authority.

Howard Sosin

Derivatives are financial arrangements whose returns are linked to, or "derived" from, the performance of such things as interest rates, currencies, stocks or commodities. Relying on quantitative insights into such notions as probability and volatility, derivatives have grown into a multitrillion-dollar industry. They are redefining how corporations, banks, governments and other big institutions measure and manage risk – and profit from it.

At AIG, and earlier at Drexel Burnham Lambert, Mr. Sosin became an early practitioner of "swaps" and other derivatives contracts. A swap is an agreement between two parties to exchange, say, a fixed interest rate for a floating one. "Today, those transactions look pretty standard, but they were novel" in the mid-1980s, says Richard Whiting, a Donaldson, Lufkin & Jenrette executive who worked with Mr. Sosin at Drexel. In 1992 alone, some $3.1 trillion of new interest-rate and currency-swaps contracts were arranged – up almost sixfold since 1987, when Mr. Sosin opened shop at AIG.

Mr. Sosin's management style is "totally unrelaxed" and compulsively hands-on, associates say. He drives himself hard – much like his late father, who taught physics at the University of Utah. "His father was a workaholic," says his mother, Dorothy. "Maybe the gene came through."

At AIG Financial Products, Mr. Sosin sweated over such seemingly mundane details as the timeliness of trade confirmations and the office renovations, including the installation of opulent marble restrooms, Brazilian wood paneling and a

Please Turn to Page A8, Column 1

A8 THE WALL STREET JOURNAL WEDNESDAY, OCTOBER 27, 1993

Sultan of Swaps: Finance Wizard Displeased Boss Despite Big Profits

Continued From First Page

50-foot aquarium for the trading room. Just as intense outside the office, Mr. Sosin threw himself into the construction of his Connecticut mansion. "He must have wanted the shutters painted 60 different shades" until he found a color he liked, says Robert Scinto, the builder.

Whether on the tennis court or at the bridge table, his competitiveness never wanes; he delights in crushing opponents. "It's never a social game for Howard; he's there to win," a longtime acquaintance says. Mr. Sosin has never granted an interview and didn't for this article.

As his business grew and rivals began to muscle in on the turf of AIG Financial Products, Mr. Sosin and his team always managed to push on to new territory. "They were always doing things an order of magnitude more complicated" than everyone else, says a managing director at one leading swaps dealer.

For instance, when most rivals shunned swaps of longer than 10 years as too risky, Mr. Sosin's unit was engineering swaps of up to 30 years with counterparties such as the state of Connecticut, New Jersey Turnpike Authority, International Business Machines Corp., Sears, Roebuck & Co. and British Gas PLC.

The customers liked the swaps because they lowered their long-term financing costs. But for AIG, the swaps' value depended on such unknowables as the path of interest rates during the life of the swap, correlations between different instruments and markets, and the cost and quality of the hedges. "Ultimately, valuing these instruments requires making certain assumptions" about the future, says William Sharpe, a Nobel laureate who co-advised Mr. Sosin's doctoral dissertation at Stanford's business school.

Most derivatives dealers minimize the uncertainties by hedging themselves with offsetting transactions, a tactic that limits them mostly to shorter-term deals. Because the 30-year swap market is so thin that offsetting swaps are hard to find, Mr. Sosin resorted to a complex trading maneuver known as "dynamic hedging" to manage the risks. This approach can be dicey, however, and few dealers attempt it on long-dated derivatives.

"The hedging challenges are extraordinary at 30 years," says William Broeksmit, managing director in charge of Merrill Lynch & Co.'s roughly $200 billion U.S.-dollar swap portfolio. "We haven't done [30-year swaps]—they're too risky."

To help manage his deals, Mr. Sosin has some select theoreticians, whom he has cultivated since his university days and who are widely seen as one of the secrets of his success. Among them are Robert Litzenberger, a finance professor at the Wharton School who co-advised Mr. Sosin's dissertation; Barry Goldman, a former finance professor at Berkeley; and Randall Rackson, who used to co-manage financial futures at CS First Boston Inc.

The derivatives unit also benefited vastly from AIG's triple-A financial backing, which assured the unit's derivatives clients that it could honor its commit-

mart

former finance professor at Berkeley, and Randall Rackson, who used to co-manage financial futures at CS First Boston Inc.

The derivatives unit also benefited vastly from AIG's triple-A financial backing, which assured the unit's derivatives clients that it could honor its commitments. In return for supporting the derivatives subsidiary and ultimately assuming most of its risks, AIG raked in enormous profits. AIG Financial Products produced revenue of $421 million last year. AIG took home $171.5 million after expenses and bonuses, or 8% of its pretax profit—making this the fastest-growing segment of the insurer's business in 1992.

Mr. Sosin didn't do badly, either. His personal profit share, rumored to have been $40 million to $50 million last year alone, supports a lavish lifestyle. He has, among other things, an apartment in Manhattan, a ski house at Snowbird, Utah, and a home in Fairfield, Conn. The Fairfield property, where Mr. Sosin lives with his wife, Susan, and their three children, is a five-story mansion known locally as "the castle." It boasts an elevator, indoor and outdoor swimming pools, a squash court and an elaborate security system, including metal gates and a guard at the end of the driveway. The estate cost $5 million, paid for in cash.

That's a long way from where he grew up. "He used to talk what it was like to grow up Jewish in [heavily Mormon] Salt Lake City — how he'd hang out with the Catholics and Episcopalians because they were all minorities together," one longtime associate says.

Mr. Sosin has few friends outside the tight clique of experts who work for him. Former subordinates describe him as a cold fish, relating how, when they tried to talk to him, he would look at the floor, the ceiling or a computer screen to avoid eye contact. Once, when moderating at an academic conference, Mr. Sosin and Mr. Goldman so savaged the presentation of an older Harvard professor that the audience was stunned.

Unlike rival derivatives players, Mr. Sosin operated largely beyond his parent company's reach, not to mention that of outside regulators. Until a few years ago, in fact, all derivatives dealers were essentially unregulated because swaps and other privately traded derivatives weren't reported in anyone's financial statements. But the growth of the business and the fact that huge sums may be riding on untried assumptions have regulators worried about how well the players understand and manage those risks.

Under Mr. Sosin's agreement with AIG, he was largely unrestricted as to his choice of customers and the terms of his deals. He and his associates also set the assumptions that determined the value of those deals, which in turn determined the profits. What's more, Mr. Sosin and his team got a big share of those profits — said to have run as high as 45%, two to three times the typical share in the business. In short, the arrangement — in sharp contrast to practices at most derivatives dealers — gave Mr. Sosin not only the incentive but the means to pursue unusual risks in search of big returns.

It is unclear why Maurice "Hank" Greenberg, AIG's iron-fisted chairman and largest shareholder, allowed Mr. Sosin such discretion. Mr. Greenberg and AIG decline to comment.

AIG did try to bear down on Mr. Sosin in 1990, when it exercised its right to jettison the initial contract, but its resolve waned when Mr. Sosin and his associates threatened to jump ship. However, the confrontation apparently hardened Mr. Greenberg's desire to seize control. He began to build his own team of derivatives experts — including Petros Sabatacakis, hired away from Chemical Bank — to take over the business if Mr. Sosin quit.

The last straw came when some of Mr. Sosin's deals started going sour, insiders say. Mr. Sosin quit earlier this year. In August, AIG wrote off $125 million, its loss due to the subsidiary's purchase of a note from Trizec, a financially troubled commercial real-estate developer controlled by Canada's powerful Bronfman family. AIG Financial Products also has exposure to other troubled Bronfman holdings, including Hees International Bancorp, insiders say.

The Sosin team at AIG Financial Products was replaced by the new AIG group. Lecturing the subsidiary's new staff after Mr. Sosin left, Mr. Greenberg emphasized that the change represents a new regime for the subsidiary. In one talk, he strongly criticized "greed" and the unit's extravagant perks, with pointed reference to its marble restrooms.

Mr. Greenberg isn't the first manager to have trouble with Mr. Sosin. At Drexel, Mr. Sosin ran the swaps division as a private fiefdom, managers say. He built a separate computer network isolated from the rest of the company, and he forbade any personal contact between outsiders and his group unless he himself was present. He became nearly hysterical when his superiors violated the rule, they say. He "had the outside world under control, the trick for him was how to keep the business out of management's hands," one former colleague says.

When Mr. Sosin jumped ship to join AIG shortly after receiving a $3 million bonus from Drexel in 1986, he enticed almost the entire department to join him. Before Drexel, he had a stormy time with Wilsher Partners, a New York futures-trading partnership, and eventually the personality conflicts contributed to his departure. In a scenario now being repeated with AIG, Mr. Sosin and the firm had to bring in lawyers to settle their bitter quarrel over how to value his share in the business.

"Howard doesn't go down easy," a former colleague says. "He never has and never will."

ROD GRAMS
6TH DISTRICT, MINNESOTA

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Banking, Finance & Urban Affairs Committee

November 12, 1993

The Honorable Henry Gonzales, Chairman
House Committee on Banking, Finance, and Urban Affairs
2128 Rayburn House Office Building
Washington, D.C. 20515

Dear Mr. Chairman:

Per your invitation at the Committee hearing on derivative products (October 28, 1993), I have enclosed a series of questions for the hearing's witnesses.

If your staff could forward these questions to the appropriate witness with a request for rapid response, I would greatly appreciate it. Please contact Peter Hong of my staff at 5-2271 if you have any questions.

Thank you for your assistance in this matter.

Sincerely,

Rod Grams

Rod Grams
Member of Congress

Enclosure

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Question for any of the witnesses

What kind of entities engage in derivative transactions and for what purposes? Why, for example, would McDonalds or Dow Chemical use these products as financing tools rather than conventional loans or financing?

A number of banking policy experts claim that during the 1989 savings and loan and 1991 banking crises, Congress actually exacerbated the problems by passing respectively FIRREA and FDICIA. All of the regulators at the hearing claimed that no more authority is needed from Congress to regulate derivative activities. Is it possible for Congress to upset the delicate regulatory balance for derivative activities through any further regulations?

Do over-the-counter derivatives demand higher credit ratings from users and end users? Do these higher standards ensure a higher rate of success?

QUESTIONS FOR THE RECORD, BANKING COMMITTEE HEARING ON DERIVATIVES

Question for the SEC

Isn't it true that most of the entities under your jurisdiction which participate in derivatives transactions are well capitalized?

Doesn't that give you some reassurance that end users would be protected in case one of the counterparties or a dealer was unable to hold up his end of the contract?

Question for the OCC, SEC

If we change the capital standards for U.S. banks, aren't we in danger of disadvantaging the banks compared to domestic broker-dealers and foreign dealers?

Isn't a better answer to make sure safeguards are in place such as adequate reporting and disclosure standards?

Question for the OCC

Isn't it true that, because the over-the-counter (OTC) derivative market demands higher credit ratings, both dealers and end users have better credit quality than a lot of corporations to whom banks make loans?

Question for the SEC, Federal Reserve, OCC

The swaps business seems to be quite profitable for a number of large, sophisticated institutions. Isn't it true that smaller, less-sophisticated institutions are not likely to participate in derivative transactions because of the high credit ratings that are required by the market? Don't you have to be rated AA or above?

Question for Federal Reserve, OCC

What kinds of entities use derivative transactions and for what purposes? Why would, for example, McDonalds or Dow Chemical Co., want to use derivatives instead of entering into new loans or issuing new debt?

Question for Federal Reserve

The swaps business has been described as "end user" driven, meaning that the demand is created by those who need these transactions to manage the financial risks of their business, whether it be interest rate risk, currency fluctuations, or commodity purchases.

If current end users cannot get this customized service from U.S. financial intermediaries, because of some action taken by Congress or the regulators, what can they do to handle the risks they face? Is there another type of product or another market which will satisfy these needs? Won't these end users just go to Europe and do business with European dealers, which will cause U.S. dealers to lose this business?

Question for Federal Reserve, OCC, SEC

There seems to be a significant amount of this type of activity in Europe. How do European governments and regulators address safety and soundness concerns? Have you looked at their regulatory schemes? Are there any systems which look like they would work here?

Question for SEC

Didn't Drexel have a reasonably-sized swap portfolio? Did Drexel's failure cause any problems in the swap market such as the systemic risk/domino effect some people are concerned about?

Question for OCC, SEC

There is some concern that the use of derivatives is growing so rapidly that the market for them may suddenly go out of control before Congress or the regulators have a good grasp of how they work and what safeguards should be in place.

For example, what would happen if a large swaps dealer ran into difficulties wholly unrelated to its swaps business? What happens to all of the contracts it has entered into? How are the regulators prepared to deal with this?

Question for Federal Reserve

In the last year, didn't the european exchange rate market mechanism collapse? Considering the billions of dollars outstanding on these foreign exchange currencies, shouldn't the collapse of this market have created the panic-stricken systemic risk scenario that some are concerned about? Yet, even under these circumstances, didn't the market manage to correct itself?

Question to OTS

There seems to be confusion in the financial press over what are "derivatives." The derivatives we are talking about today are over-the-counter (OTC) derivatives, not derivative securities like mortgage-backed securities, Treasury interest-only strips and principal-only strips where people are losing money because they are betting the wrong way.

In fact, wouldn't you use OTC derivatives to hedge the kind of risk that results from investing in derivative securities?

Isn't it also true that swaps could have mitigated the losses, and allowed the thrifts to better handle their interest rate mismatch?

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COMMITTEE ON BANKING, FINANCE AND URBAN AFFAIRS

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WASHINGTON, DC 20515-6050

November 8, 1993

Mr. Daniel F. Evans, Jr.
Chairman
Federal Housing Finance Board
1771 F Street, N.W.
Washington, D.C. 20006

Dear Mr. Evans:

The House Committee on Banking, Finance, and Urban Affairs recently conducted a hearing on the use of derivative products.

To aid the Committee in assessing the use of derivative products by government sponsored enterprises, please provide answers to the following questions:

1. Please give an overview of Federal Housing Finance Board (FHFB) and Federal Home Loan Banks use of derivative products. Please describe the risk management system used to monitor FHFB derivative activities.

2. Does the FHFB monitor the derivative activities of thrifts that receive funds from the FHFB? Do these thrifts use derivatives speculatively?

3. What are the risks to the FHFB system posed by derivatives activities?

4. To what extent does the FHFB and the Federal Home Loan Banks use derivatives for speculation?

Please feel free to add any related comments about the above topic. Thank you for your consideration of these questions. Please respond to these questions by the close of business December 3, 1993.

Sincerely,

Henry B. Gonzalez
Chairman

HBG:mpc

Federal Housing Finance Board
1777 F Street, N.W., Washington, D.C. 20006
Telephone: (202) 408-2500 Facsimile: (202) 408-1435

December 17, 1993

The Honorable Henry B. Gonzalez
Chairman
Committee on Banking, Finance
and Urban Affairs
House of Representatives
Washington, D.C. 20515-6050

Dear Chairman Gonzalez:

Thank you for your letter of November 8, 1993, to former Chairman Daniel F. Evans, Jr., requesting information on the use of derivative financial products by the Federal Home Loan Bank System. As you know, Chairman Evans resigned from the Federal Housing Finance Board effective November 22, 1993. I am pleased on behalf of the Finance Board to respond to your questions.

Please feel free to contact me at (202) 708-3600 for any further information.

Sincerely,

Nicolas P. Retsinas

Enclosure

FEDERAL HOUSING FINANCE BOARD

Responses to Questions of November 8, 1993
on FHLBank Use of Derivative Products

1. "Please give an overview of Federal Housing Finance Board (FHFB) and Federal Home Loan Banks use of derivative products. Please describe the risk management system used to monitor FHFB derivative activities."

A derivative financial instrument is one whose value derives from an underlying asset, rate, or index. Derivatives are of two principal types: (1) Forward-based/future-based derivatives; and, (2) Option-based derivatives.

The Federal Housing Finance Board ("Finance Board"), which regulates the Federal Home Loan Banks ("FHLBanks"), assesses the FHLBanks to finance its operations. Consequently, the Finance Board does not use derivative financial products as a source of funds.

The FHLBanks use both types of derivatives in their credit, funding, and risk management activities to manage interest rate and basis risk and to reduce funding costs.

Forward-based/future-based derivatives. The FHLBanks use interest rate swaps and financial futures, primarily for their individual interest rate risk management needs. Also, the FHLBanks engage in interest rate swaps to assist members of the FHLBank System in managing their interest rate risk.

Option-based derivatives. Through the FHLBank System's Office of Finance, FHLBank System liabilities, called consolidated obligations, are issued. These may contain a variety of options. Increasingly, these are used to fund prepayable FHLBank advances, which are putable back to the FHLBank at a member's option or are prepayable based on market indices. The FHLBanks also use options on futures and forward contracts to manage interest rate and basis risk.

These activities are more fully described below:

Funding. The FHLBanks use derivative debt primarily to reduce their funding cost in order to provide lower cost housing finance for their members at rates more competitive with alternative sources of funds. The following are representative of recent transactions that incorporate options into consolidated debt issuances:

- o Optional principal redemption bonds
- o Stepped optional principal redemption bonds
- o Indexed principal redemption bonds
- o Simple floater
- o Inverse floater
- o Stepped inverse floater
- o Dual indexed floater
- o Variable principal

The Finance Board's Financial Management Policy ("FMP") for the FHLBanks requires that the risks associated with derivative funding be passed by the FHLBank to a suitably creditworthy hedge or swap counterparty. Therefore, the FHLBanks retain virtually none of the interest rate or basis risk that these transactions might otherwise entail. For example, while consolidated debt may be issued in a foreign currency, any non-U.S. Dollar denominated debt must be converted to a U.S. Dollar liability. Similarly, any debt with varying principal must be converted to debt with fixed principal using a swap or other hedge vehicle.

Precautions have also been taken to ensure that derivative consolidated debt is sold only to qualified investors. All primary dealers in FHLBank System debt must sign an underwriting agreement which requires that all such sales be made to suitable investors.

Swaps and hedges are subject to the secured and unsecured credit guidelines of the FMP. These guidelines set minimum credit and collateral standards for the FHLBank System. Eligible

counterparties are restricted to financial entities of at least investment grade quality. Collateral is required to offset credit quality shortcomings. Compliance with these guidelines is reviewed as part of Finance Board examinations; additionally, FHLBank internal auditors review compliance and report semi-annually to the Finance Board.

Advances. To the extent that a FHLBank's variable advance rates are based on U.S. Dollar LIBOR, 11th District cost of funds (also known as "11th District COFI"), and other interest rate indices, these all may be considered derivative.

As mentioned above, FHLBank System members are increasingly selecting FHLBank advance products that have imbedded prepayment options. These advances tend to reduce the member's interest rate risk by providing the opportunity to refinance if interest rates fall, or by better matching funding to the durations of mortgage-related assets.

The FHLBanks also facilitate members' asset/liability management by providing interest rate swaps, a derivative activity. These activities reduce members' basis and interest rate risk. Members are further advantaged by having the FHLBank as a "AAA" counterparty. Moreover, the FMP requires that the FHLBanks engaged in such activity enter into offsetting swaps to reduce their own interest rate risk.

Risk Management Systems. Risk management systems emphasize the importance of qualified personnel, sound Finance Board and FHLBank policies and controls, and sound management and board oversight. Internal audit structures are also well developed throughout the FHLBanks.

Also, since 1991, the Finance Board has monitored FHLBank use of derivatives through annual on-site examinations, which include reviews of FHLBank financial management operations, including interest rate risk management, swap and hedge activities, and related accounting and other internal controls. Annual examinations of the funding activities and internal controls of the Office of Finance, the FHLBank System's fiscal agent, are also conducted.

2. "Does the FHFB monitor the derivative activities of thrifts that receive funds from the FHFB? Do these thrifts use derivatives speculatively?"

FHLBank System member institutions receive no funds from the Finance Board. FHLBank System members may only receive funding through application to their respective FHLBank.

The Finance Board has no supervisory or regulatory authority with respect to members' use of funds advanced by the Federal Home Loan Banks. By law, FHLBank members must be regulated entities. Their regulatory supervision is the responsibility of the Office of the Comptroller of the Currency, Office of Thrift Supervision, Federal Reserve or Federal Deposit Insurance Corporation, as well as state banking and insurance regulators.

However, Finance Board examiners review activities where the FHLBanks have acted as swap counterparties with members. Examiners review for unusual transactions that may reflect speculative activities.

3. "What are the risks to the FHFB system posed by derivatives activities?"

The report of the Group of 30 and the recent minority report of the House Banking Committee list the risks to all market participants in derivatives activities. These include counter-party credit risk, market risk, settlement risk, operating risk, liquidity risk, legal risk, aggregation or interconnection risk, and systemic risk.

Of the several risks, the Finance Board has identified counterparty credit risk as the primary source of potential risk to the safety and soundness of the FHLBanks. Therefore, as noted above, the Finance Board has established policies governing credit risk arising from on- and off-balance sheet transactions. Counterparty credit risk management is a central feature of the FMP, which explicitly addresses the measurement and limitation of credit exposure. Counterparties are limited to those having investment grade credit quality, and outstanding credit risk to individual counterparties is limited to avoid excessive risk concentration. Collateral requirements also reduce net credit exposures.

In addition to counterparty restrictions, the Finance Board has emphasized in its policies and regulations the need to:

- o Measure current unsecured credit exposure on a regular basis.
- o Set credit limits with each approved dealer.

Through its supervisory monitoring and examinations, the Finance Board reviews and analyzes FHLBank operations under a variety of assumed interest rate and economic conditions, particularly substantial, instantaneous, and sustained interest rate shocks. The FHLBanks also incorporate such practices in their asset/liability management.

4. "To what extent does the FHFB and the Federal Home Loan Banks use derivatives for speculation?"

The Finance Board does not use derivative financial products.

The Finance Board prohibits the FHLBanks' use of derivative instruments for speculative purposes.

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COMMITTEE ON BANKING, FINANCE AND URBAN AFFAIRS

ONE HUNDRED THIRD CONGRESS

2129 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-6050

November 8, 1993

Mr. Lawrence Hough
President and CEO
Student Loan Marketing Association
1050 Thomas Jefferson Street, N.W.
Washington, D.C. 20007

Dear Mr. Hough:

The House Committee on Banking, Finance, and Urban Affairs recently conducted a hearing on the use of derivative products.

To aid the Committee in assessing the use of derivative products by government sponsored enterprises, please provide answers to the following questions:

1. Please give an overview of the Student Loan Marketing Association's (SallieMae) use of derivative products. Please describe the risk management system used to monitor FannieMae derivative activities.

2. What are the risks to SallieMae posed by derivatives activities?

3. To what extent does SallieMae use derivatives for speculation?

Please feel free to add any related comments about the above topic. Thank you for your consideration of these questions. Please respond to these questions by the close of business December 3, 1993.

Sincerely,

Henry B. Gonzalez
Chairman

HBG:mpc

DK 12.115

STUDENT LOAN MARKETING ASSOCIATION
1050 Thomas Jefferson Street, N W
Washington, D.C. 20007-3871
202-298-2600

LAWRENCE A. HOUGH
President and
Chief Executive Officer

DEC 1993

December 10, 1993

The Honorable Henry B. Gonzalez
Chairman
Committee on Banking, Finance and Urban Affairs
2129 Rayburn House Office Building
Washington, D.C. 20515-6050

Dear Chairman Gonzalez:

This is in response to your November 8, 1993 letter requesting information about Sallie Mae's use of derivative products. By way of background, Sallie Mae was created as a government-sponsored enterprise (GSE) to provide liquidity to support the now millions of students and parents who each year rely upon guaranteed loans to help finance the costs of higher education. As one of the nation's major intermediaries to the education credit market, Sallie Mae has successfully raised and delivered private capital to more than 23 million students and parents -- or more than $60 billion of education credit. In the process, we have worked in partnership with thousands of lenders and thousands of schools to help support the private capital-based Federal Family Education Loan program, formerly known as the Guaranteed Student Loan Program (GSLP).

1. Background

Sallie Mae issues debt to finance the ownership of student loans. The corporation's policy and practice is to properly match its interest-sensitive assets with interest-sensitive debt. Since the marketplace does not always allow the corporation to accomplish this goal directly at favorable prices and with precise timing, Sallie Mae uses a variety of derivative products. The use of derivative products minimizes the company's exposure to the risks associated with changes in the rate of return on its assets. This management of interest rate risk is an integral part of Sallie Mae's normal business. For the purposes of this letter, the term "derivative product" refers to Sallie Mae's use of instruments such as interest rate swaps, caps, collars, floors, and currency swaps, forwards and options.

To further elaborate, Sallie Mae's assets generally yield a floating rate of return based either on a Treasury bill (T-bill) index or a London Interbank Offered Rate (LIBOR) index. Sallie Mae uses the bond market to borrow the funds it needs to purchase its assets. If Sallie Mae borrows at rates that do not match the interest rate characteristics of the assets financed with such borrowings, however, it takes on interest rate risk, or the risk that future decreases in the interest earnings on its assets would not be matched by lower financing costs.

To minimize this risk, Sallie Mae has adopted a financing philosophy known as "matched funding" whereby the costs of Sallie Mae's liabilities are designed to move in unison with the yield on its assets. By using matched funding, Sallie Mae has been careful to secure a predictable earnings "spread" (the difference between what Sallie Mae earns from its assets and what Sallie Mae pays out on its bonds) rather than speculate on interest-rate movements.

Standing alone, this philosophy would require all T-bill indexed assets to be financed by T-bill indexed borrowings, and LIBOR indexed assets by LIBOR indexed borrowings, but Sallie Mae often can achieve lower borrowing costs by offering fixed rate debt or debt that carries a different fluctuating rate than T-bill or LIBOR. The use of swaps and other derivative products allows Sallie Mae to obviate the interest rate risk that otherwise would be associated with using non-T-bill, non-LIBOR instruments, and consequently, to take advantage of both fixed-rate and variable rate products that we could not otherwise use because we could not maintain matched funding. For this reason, since 1982, Sallie Mae has been an end-user of derivative products in pursuit of the lowest financing costs and minimal interest rate risk.

2. Please give an overview of Sallie Mae's use of derivative products. Please describe the risk management system used to monitor Sallie Mae's derivative activities.

As discussed above, Sallie Mae employs derivative products to match the interest expense of its bonds with the interest income which Sallie Mae earns on its assets. The goal is to reduce interest rate risk and lock-in an earnings spread at the lowest financing cost.

Sallie Mae's risk management system is described in response to Question 3.

3. **What are the risks to Sallie Mae posed by derivatives activities?**

Recent studies by the Group of Thirty and several regulatory bodies have concluded that participants in the derivatives markets face a number of common risks. Sallie Mae agrees that all of the types of risk identified in the studies exist. However, because of the nature of our business and the ways in which we limit our use of derivative products, we have found that, for us, credit risk is the most significant, and we consequently emphasize credit quality in our risk management activities.

Sallie Mae's limitation of its role to that of an end-user of derivatives products minimizes several kinds of risks others may face. Sallie Mae manages its market risk by matching its derivative transactions with its asset and liability transactions. Similarly, liquidity risk is not significant because Sallie Mae enters into derivatives transactions with the expectation of maintaining the position until the maturity of the hedged liability. Because of the nature of our dealings, Sallie Mae has never experienced a loss due to settlement or legal risk complications. We have in place a system of checks and balances such that we have not, in our 11 years' involvement with derivative products, experienced a loss due to operational risk.

As noted, based on Sallie Mae's experiences, the corporation views credit risk as the fundamental risk presented by its derivative activities, and it carefully controls that risk through an established, formalized risk management system. The system includes an independent Credit Division that measures, monitors, approves and reports the level of counterparty credit risk -- prior to execution and on a monthly basis throughout the life of derivatives transactions. The counterparty for every transaction is subjected to a thorough credit analysis. Sallie Mae prudently manages its group of counterparties, over 60% of which have a credit rating of double A or better and virtually none of which carries a rating below single A. Further, Sallie Mae obtains collateral enhancements, early termination, or assignment rights at the inception of each transaction when the creditworthiness of a counterparty is at issue. This system involves senior management, officers and employees responsible for the derivatives transactions, including the corporate finance, credit, legal, accounting and audit divisions of the corporation.

4. To what extent does Sallie Mae use derivatives for speculation?

Sallie Mae uses derivatives solely to manage the risks of its ordinary business. It does not use derivatives for speculation.

I hope that this information provides helpful insights into Sallie Mae's uses of financial derivative products. I believe Sallie Mae's derivatives experience provides an example of the way in which the prudent use of such instruments can provide a stabilizing influence in credit transactions. We would be pleased to respond to any further questions that you may have or to meet with you to provide additional explanations of our derivatives activities.

Sincerely,

Lawrence A. Hough
President and
Chief Executive Officer

HENRY B GONZALEZ, TEXAS, CHAIRMAN
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COMMITTEE ON BANKING, FINANCE AND URBAN AFFAIRS

ONE HUNDRED THIRD CONGRESS

2129 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-6050

November 8, 1993

Mr. James Johnson
Chairman and CEO
Federal National Mortgage Association
3900 Wisconsin Avenue, NW
Washington, D.C. 23016-2899

Dear Mr. Johnson:

The House Committee on Banking, Finance, and Urban Affairs recently conducted a hearing on the use of derivative products.

To aid the Committee in assessing the use of derivative products by government sponsored enterprises, please provide answers to the following questions:

1. Please give an overview of Federal National Mortgage Association's (FannieMae) use of derivative products. Please describe the risk management system used to monitor FannieMae derivative activities.

2. What are the risks to FannieMae posed by derivatives activities?

3. To what extent does FannieMae use derivatives for speculation?

Please feel free to add any related comments about the above topic. Thank you for your consideration of these questions. Please respond to these questions by the close of business December 3, 1993.

Sincerely,

Henry B. Gonzalez
Chairman

HBG:mpc

3900 Wisconsin Avenue, NW
Washington, DC 20016-2899
202 752 6790

James A. Johnson
Chairman of the Board and
Chief Executive Officer

DEC 10 1993

December 9, 1993

FannieMae

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Banking, Finance & Urban Affairs

The Honorable Henry B. Gonzalez
U.S. House of Representatives
2413 Rayburn House Office Building
Washington, D.C. 20515

Dear Mr. Chairman:

Thank you for giving Fannie Mae the opportunity to describe its derivative securities activities. As you know, Fannie Mae has two major lines of business: portfolio investment and issuance of mortgage-backed securities. The company buys residential mortgages for its investment portfolio and earns a spread between the yield on portfolio investments and the cost of debt funding those investments. Fannie Mae also receives pools of mortgage loans from lenders and exchanges them for Mortgage-Backed Securities, which the company guarantees.

For each of the three questions you have asked I have provided a separate response reflecting Fannie Mae's use or issuance of derivatives relating to these two components of our business.

Question One:

Please give an overview of Fannie Mae's use of derivative products.

Portfolio Investment:

On the funding side, Fannie Mae uses a variety of risk management derivative instruments to reduce interest rate risk on its mortgage portfolio and to reduce its debt costs, both of which help lower mortgage rates for American homeowners. Fannie Mae does not speculate using derivatives.

Examples of Fannie Mae's use of derivatives include interest rate swaps, callable swaps to synthetically create callable funding, and some limited use of interest rate futures and options to hedge daily interest rate fluctuations.

Interest rate swaps provide the specific cash flows or characteristics the portfolio requires but would not be readily obtainable from the standard debt market alone. Swaps also provide Fannie Mae greater access to a broad array of investors. Callable swaps provide Fannie Mae with an additional tool to effectively fund mortgages and reduce the dependency on callable bonds (and

hence control borrowing costs). Fannie Mae commits to purchase loans daily. However, it is cost prohibitive to issue debt to match those commitments on a daily basis. Interest rate futures and options enable Fannie Mae to maintain an orderly and cost effective debt issuance schedule so that Fannie Mae can make daily loan purchase commitments. Fannie Mae also uses interest rate caps and floors to cushion the mortgage portfolio from extreme interest rate movements.

These risk management instruments have proven to be effective tools which enable Fannie Mae to lower its borrowing costs and pass on those savings to homeowners in the form of lower mortgage interest rates.

Mortgage-Backed Securities:

Fannie Mae issues three types of securities, which because their cash flow is dependent upon the cash flow of another security, may be technically considered "derivative" products: Real Estate Mortgage Investment Conduits (REMIC's), Stripped Mortgage-Backed Securities ("SMBS") and Swap Trusts. Fannie Mae issues these securities for precisely the reasons Congress authorized their issuance: to add liquidity to the mortgage finance system and to lower mortgage rates for homeowners.

These securities expand the appeal and availability of mortgage securities to a broad investor base resulting in more investor capital, including international capital, being committed to the U.S. housing finance system. As Congress envisioned, REMICs have become a vehicle for pension funds and other large sources of capital to commit their investment resources to the nation's housing finance system and housing industry.

We are guided by investor appeal when designing a REMIC, SMBS or Swap Trust issue. These transactions offer a variety of investment products with customized performance characteristics across a range of maturities.

Innovative REMIC structures increase the predictability of cash flows in certain classes while other classes are designed as tools to be used in the context of an institution's or investor's overall asset/liability management strategy or total return investment strategy. These products are designed to be used as portfolio enhancements by knowledgeable investors rather than as stand alone investments. The judicious use of these instruments can assist the investor in reducing vulnerability to volatile interest rate movements.

Real Estate Mortgage Investment Conduits ("REMICs"):

A ***REMIC*** is a multiple-class mortgage cash flow security created by authority of the Tax Reform Act of 1986. By redirecting the cash flow from the underlying collateral, Fannie Mae can create classes, or *tranches*, with different interest rates, average lives, prepayment sensitivities, and final maturities. While the characteristics of the tranches may vary, when combined, the cash flow from the tranches equal the payments of the underlying collateral. The underlying collateral is usually Mortgage-Backed Securities ("MBS"), however, other REMIC tranches or SMBS may be used. Investors with different investment objectives are able to select tranches that meet their specific portfolio needs. Investors are willing to pay more for the REMIC tranches than the underlying collateral, which results in lower mortgage interest rates for homeowners.

Since the program's inception in 1987 we have issued $487 billion of REMICs through September, 1993.

Stripped Mortgage-Backed Securities ("SMBS"):

Stripped Mortgage-Backed Securities (SMBS) typically involve "stripping apart" the principal and interest payments from the underlying collateral to create two classes: Interest Only ("IO") and Principal Only ("PO"). The IO class is allocated all the interest payment cash flows from the underlying MBS while the PO class receives the principal payment cash flow. REMIC structures can include IO and PO classes. SMBS collateral is usually standard MBS, however certain REMIC tranches have been "stripped".

Investor demand also guides our SMBS activity. IO and PO classes are extremely sensitive to prepayments; Fannie Mae's SMBS prospectus states that "In the case of any IO class, a faster than anticipated rate of principal payments is likely to result in a lower than anticipated yield and, in certain cases, an actual loss on the investment." Ios appeal to investors whose portfolio values decrease as prevailing interest rates rise. Conversely, Pos appeal to investors who stand to lose future cash flows from other investments when prevailing interest rates fall.

Since inception we have issued $89 billion SMBS through September, 1993.

Swap Trusts:

In a ***Swap Trust*** a trust is established with a fixed-rate REMIC tranche as its asset. Principal and interest cash flow from the REMIC tranche is paid into the trust which passes a fixed interest amount to the designated swap counterparty. That entity, using its own hedging techniques, is obligated to return a floating interest amount to the trust. The trust then pays the certificate holder the certificate payment amount, which includes the floating interest amount. A reserve fund is maintained to serve as partial security for the swap counterparty's obligations. Investors in a swap trust are exchanging a fixed-rated cash flow for a floating rate as a risk management tool.

For additional protection, Fannie Mae requires a swap trust counterparty to be AAA rated. Also, if a counterparty is downgraded from AAA to a lower rating, Fannie Mae may dissolve the trust in certain instances. In one swap trust agreement for example, Fannie Mae received upfront compensation before agreeing to bear the risk that the counterparty's rating might be downgraded.

We have issued five Swap Trusts totaling $972 million, all in 1993.

Question Two:

What are the risks to Fannie Mae posed by derivatives activities? Please describe the risk management system used to monitor Fannie Mae's derivative activities.

Portfolio Investment

On the funding side, the risks posed by derivatives are mainly credit and market-related.

Credit risk for swaps is defined as the risk that the other side to a swap (the "counterparty") fails to meet its contractual obligations on that swap transaction causing Fannie Mae to have to replace the swap at market prices. Fannie Mae manages credit risk by: (1) dealing primarily with experienced swap counterparties; (2) diversifying its book across several counterparties; (3) ensuring that all swaps are documented under standardized master agreement: (4) requiring the use of uniform credit support agreements (such as collateral agreements).

The use of collateral agreements is a major aid in managing credit risk. Under these collateral agreements, counterparties are required to post collateral if Fannie Mae is exposed to them. Further, the posting of collateral is tied to credit ratings. Fannie Mae may even require overcollateralization from counterparties whose credit ratings have dropped below pre-determined levels. Fannie Mae regularly monitors the exposures on its derivatives book by marking the positions to market via option pricing models and dealer quotes.

Market or systemic risk is the risk that the entire financial market experiences stress and that several major derivatives participants default on their obligations. To protect itself if this unlikely event occurred, Fannie Mae enters into swap agreements only with a finite group of highly capitalized counterparties. Furthermore, Fannie Mae's collateral agreements and netting requirements should provide additional protection for this risk.

While Fannie Mae has long followed many of the processes and practices recommended recently by the Group of Thirty, it is committed to continually monitoring and improving all aspects of its derivatives business.

Mortgage-Backed Securities:

As the issuer of REMICs, SMBS and Swap Trusts, Fannie Mae is exposed to virtually no additional risk, other than the credit risk which already exists on the underlying MBS. Each issue is established as an independent trust. Fannie Mae's responsibility as trustee is defined by the trust indenture for each issue.

All of the "derivative" securities we issue ultimately depend on the cash flow from mortgage pass-through certificates (MBS). In most cases they are Fannie Mae guaranteed MBS, but some REMICs are backed by Ginnie Mae pass-through certificates. Fannie Mae guarantees timely payment of principal and interest on our MBS, which assures that expected cash flows are available for redistribution under the terms of the "derivative" instrument. Our guarantee is assured by requiring that the individual loans that compose an MBS meet strict credit quality guidelines before they are pooled into an MBS.

In effect, Fannie Mae's mortgage securities are all backed by the same type of home loans that we buy for our portfolio. The credit characteristics of these mortgages is exceedingly high. In practical terms, our mortgage "derivatives" allocate the cash flows of monthly principal and interest payments (including prepayments) to different investors, depending on their preference. These

investors are making assumptions on likely prepayment patterns and the reinvestment rate they will be able to get when the mortgage monies are passed through to others.

Fannie Mae's issuance of REMICs, SMBS and Swap Trusts is generally initiated by an approved investment banking firm who identifies a deal structure and selects the collateral's characteristics. Before the deal is "priced", or officially agreed to, Fannie Mae reviews the structure and the proposed collateral's characteristics as well as collateral availability in the market. Fannie Mae and our independent accountants separately model the transaction to verify to the penny the integrity of the cash flows under a broad range of economic assumptions. We also assess our administrative responsibilities at that time. Once these thresholds are passed and the security has been issued, Fannie Mae again looks at the structure using the actual closing collateral to ensure that the investor receives the represented security. If the security's characteristics have changed materially, the dealer is required to inform the investor and make any appropriate price adjustments.

We provide full and complete disclosure of all performance variability under a range of prepayment sensitivities. Fannie Mae's disclosure is comparable to that provided by issuers of SEC registered securities. Moreover, we provide additional yield sensitivity tables in our prospectus supplements for the more prepayment sensitive securities and we offer investor support services through our toll-free customer service Helplines, which are staffed from 8:30 a.m. to 5:30 p.m. every business day and are otherwise available 24 hours a day. No private REMIC issuer offers the range of investor support and information offered by Fannie Mae.

Question Three:

To what extent does Fannie Mae use derivatives for speculation?

Fannie Mae does not use derivatives to speculate.

We invest in REMICs for our portfolio and facilitate secondary trading of a limited amount of these securities to dealers and select investors.

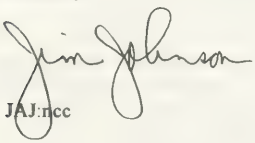
Fannie Mae buys REMIC tranches for its mortgage investment portfolio as an alternative to or in addition to the whole loans and mortgage pass-throughs we purchase. All of these investments are held to maturity. Like other mortgage

mixture of debt and equity to provide an acceptable risk-adjusted return over a wide range of interest rate environments. These assets, like all of the assets on Fannie Mae's balance sheet, are subject to the capital requirements established in the Federal Housing Enterprises Financial Safety and Soundness Act of 1992.

Furthermore, as a service to lenders and investors, Fannie Mae maintains a Customer Securities Trading Desk ("CSTD"). The CSTD facilitates brokering of certain securities by identifying purchasers of particular Fannie Mae products that are available for sale by others. On these securities, we enter into simultaneous, offsetting purchase and sale transactions and take no investment position.

Again, thank you Mr. Chairman for the opportunity to respond to your questions.

Sincerely,



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COMMITTEE ON BANKING, FINANCE AND URBAN AFFAIRS

ONE HUNDRED THIRD CONGRESS

2129 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515–6050

November 8, 1993

Mr. Leland Brendsel
Chairman and CEO
Federal Home Loan Marketing Corporation
1101 Pennsylvania Avenue, N.W.
Washington, D.C. 20004

Dear Mr. Brendsel:

The House Committee on Banking, Finance, and Urban Affairs recently conducted a hearing on the use of derivative products.

To aid the Committee in assessing the use of derivative products by government sponsored enterprises, please provide answers to the following questions:

1. Please give an overview of Federal Home Loan Marketing Corporation's (Freddie Mac) use of derivative products. Please describe the risk management system used to monitor FannieMae derivative activities.

2. What are the risks to Freddie Mac posed by derivatives activities?

3. To what extent does Freddie Mac use derivatives for speculation?

Please feel free to add any related comments about the above topic. Thank you for your consideration of these questions. Please respond to these questions by the close of business December 3, 1993.

Sincerely,

Henry B. Gonzalez
Chairman

HBG:mpc

8200 Jones Branch Drive
McLean, VA 22102-3107

Leland C. Brendsel
Chairman
Chief Executive Officer
(703) 903-3000

DEC 10 1993

Freddie Mac

December 10, 1993

The Honorable Henry B. Gonzalez
Chairman
Committee on Banking, Finance
and Urban Affairs
U.S. House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

I am pleased to respond to your letter of November 8, 1993, regarding Freddie Mac's use of derivative products. Freddie Mac recognizes the great interest and attention currently being devoted to the financial derivatives market by Congress, various federal regulatory bodies and the financial community as a whole. This attention is well deserved given the growth and importance of this sector of the financial market.

Freddie Mac's mission is, as a shareholder-owned corporation, to make the American dream of safe, accessible housing a reality. We have done this since our creation by Congress in 1970 by operating as a secondary market entity, purchasing mortgages from primary lenders and packaging most of those mortgages into securities that we sell to investors. We also hold a portion of the loans we purchase in portfolio, which we finance with debt. In this way we help provide a stable and reliable source of mortgage credit for America's homebuyers.

Freddie Mac uses financial derivative products as an end-user to manage the risks that we face during the course of our day-to-day operations to fulfill our corporate mission. We do not use financial derivatives for speculative purposes.

Question 1: Overview of Freddie Mac's Use of Derivative Products

Although it is difficult to generalize about this market, given the diversity of the financial products and market participants involved, we understand the term "financial derivatives" to mean financial instruments whose value depends on (or is "derived" from) an underlying asset, reference rate or index. These derivatives encompass

exchange-traded and over-the-counter financial products commonly referred to as forwards, futures, options and swaps.[1] Although the derivatives market itself is complex, some derivative products are relatively standardized and straightforward in structure and risk, and are bought and sold in fairly well-developed markets. Others are exceedingly complicated, exotic and customized products, with high volatility, limited liquidity and high risk.

Freddie Mac's involvement with financial derivatives is limited to the straightforward category of products, such as interest-rate swaps. In a typical swap agreement entered into by Freddie Mac, the contracting parties (often referred to as "counterparties") agree to exchange a stream of payments based on a notional principal amount over a fixed period of time. The notional principal amount is not exchanged and is not indicative of the risk of the transaction or the exposure to the counterparties. The most common of these swaps is an interest-rate swap, where floating interest-rate and fixed interest-rate payments are exchanged. Other types of swaps include floating-rate for floating-rate payments based on different indexes ("basis swaps"); the payment of an initial amount in exchange for the right to receive payments should interest rates exceed a set level, fall below a set level or both ("caps," "floors" or "collars"); or a right to enter into a swap on certain terms in the future ("swaptions").

Freddie Mac uses interest-rate swaps as an important asset/liability management tool. Freddie Mac often enters into a swap in conjunction with the issuance of debt in order to reduce financing costs. For example, Freddie Mac might issue floating-rate debt in conjunction with a floating-rate for fixed-rate swap agreement. Our counterparty would then make the floating-rate payments, and Freddie Mac would make fixed-rate payments at the rate specified in the swap agreement. The swap would enable Freddie Mac to raise capital and pay a lower fixed rate than would be otherwise available. This in turn reduces costs to homebuyers and renters. Freddie Mac might also enter

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[1] For purposes of responding to your inquiry, we have distinguished between these financial products and certain forms of mortgage-related securities (sometimes called "derivative mortgage securities"), and the purchase and sale of mortgage securities on a delayed delivery basis (sometimes called "forward contracts"), each of which is regulated under the Government Securities Act of 1986 and the recently enacted amendments to that Act. Freddie Mac finances purchases of mortgages by selling securities backed by those mortgages. Some of these securities are multiclass Real Estate Mortgage Investment Conduit ("REMIC") securities, backed by other mortgage securities. For Freddie Mac as an issuer, these multiclass mortgage securities do not present risks beyond those that we face in issuing single-class mortgage-backed securities, that is, the risk that the borrower will not repay the mortgage. Similarly, the market for the sale of mortgages to Freddie Mac and the sale of securities backed by such mortgages is essentially a "forward" market in which Freddie Mac participates daily as an essential part of our function to link the mortgage market and the capital market. Accordingly, mortgage-related securities and contracts for their purchase and sale are not the focus of this discussion.

into a swap as part of a "hedge" to change the corporation's interest-rate risk exposure. In each case, Freddie Mac's goal is to manage the risks -- primarily interest-rate risk -- that we face during the normal course of business. Freddie Mac does not participate in the financial derivatives market as a dealer or intermediary making a market or earning fees. Rather, we are an end-user of these products, which we use to manage our own portfolio of assets and liabilities.

Question 2: Risks and Risk Management

Although we use swaps to reduce our overall risk profile, we recognize that certain features of these products pose risks of their own that must be managed carefully. It is important to note that these risks are not unique to Freddie Mac, or even to the market for derivative products, but are faced by all participants in this market and other financial markets as well. The basis of sound risk management of derivative activities is similar to that of other activities: a strong management and control system operating under prudent policies reviewed and approved by senior management and, as appropriate, the Board of Directors. Some of the risks associated with derivative products -- and the ways Freddie Mac manages those risks -- are described below.

Credit risk is the risk that the counterparty will default on the swap contract. To manage credit risk, Freddie Mac routinely uses credit supports, such as collateral pledge agreements and guarantees. In cases where credit support is required by Freddie Mac, swaps are regularly marked to market and any collateral posted by a counterparty serves as insurance against the cost of a default by that counterparty. To further reduce our exposure to credit risk, Freddie Mac will only enter into swaps with well-capitalized counterparties.

Interest-rate risk is the exposure to adverse changes in the value of a swap position due to interest-rate movements. Although swap positions are interest-rate sensitive, these positions are used to offset interest-rate risk in other areas of our portfolio, reducing the overall interest-rate risk to the corporation.

Operations risk is faced by any firm that uses swaps to manage risk. The operational requirements of the prudent use of derivatives are substantial. For example, payments are due to and from Freddie Mac at different times, and are based on a variety of indexes and calculations. These payment amounts must be confirmed at time of payment or receipt, and bookkeeping and accounting records must be maintained. It is essential that we are able to process all these elements accurately and in a timely fashion. Freddie Mac controls operations risk through staff training, hands-on management oversight and internal audit review of our derivatives activities. Furthermore, although

the operational requirements of derivatives activities are complex, the mechanics of making fixed- and floating-rate payments are well established at Freddie Mac. As a result, our operations regarding derivatives transactions rest on a solid foundation.

Legal risk associated with conducting swap transactions relates to the enforceability of the agreement in the case of counterparty default. Freddie Mac manages legal risk in a number of ways. Freddie Mac carefully documents our participation in swaps, with each counterparty and for each individual transaction. We use industry-standard International Swaps and Derivatives Association ("ISDA") master agreements and individually negotiated schedules, security agreements and guarantees. These industry-standard agreements contain, among other things, representations regarding legal enforceability and remedy provisions regarding netting that provide protection to Freddie Mac in the case of counterparty default and insolvency, allowing Freddie Mac to settle all swap agreements with that counterparty on a net obligation basis. We also enter into transactional confirmations with each counterparty for each transaction, to ensure the accurate recording of its terms.

Question 3: Speculation

Freddie Mac does not use financial derivatives for speculative purposes. As discussed above, Freddie Mac uses financial derivatives (primarily interest-rate swaps) as an integral part of our overall asset/liability management to limit interest-rate risk and reduce financing costs. In addition, Freddie Mac engages in these activities as an end-user of derivatives for our own account, in support of our corporate mission, and not as a dealer or financial intermediary in pursuit of trading profits.

Conclusion

As you are aware, the Housing and Community Development Act of 1992 (PL 102-550) established progressive and stringent capital standards for Freddie Mac and Fannie Mae that include requirements for capitalization against off-balance sheet assets, including derivatives. As part of the initial Capital Classification required by that Act, the Director of the Office of Federal Housing Enterprise Oversight ("the Director") requested information about our use of derivative instruments. Enclosed is our response to the Director on this subject.

In conclusion, let me emphasize that the carefully controlled use of derivatives can minimize the overall risk that a financial services company faces, although the instruments themselves can present risks. Freddie Mac uses derivative products as

part of our overall asset/liability management process, and manages that process with internal policies, procedures and systems. By prudently managing the risks we face, we strengthen our ability to provide stable, reliable, low-cost mortgage credit to America's homebuyers.

I am pleased to respond to your inquiry on this topic of great importance to the financial markets. If you would like to discuss these issues further please feel free to call me.

Sincerely,

Leland C Brendsel

Leland C. Brendsel

Enclosure

8200 Jones Branch Drive
McLean, VA 22102-3107

August 27, 1993

The Honorable Aida Alvarez
Director
Office of Federal Housing Enterprise Oversight
Department of Housing & Urban Development
Washington, D.C.

Freddie Mac

Dear Director Alvarez:

Thank you for your August 24, 1993 request for additional information concerning Freddie Mac's initial capital classification. I hope that the following information is fully responsive.

1. **Summary information about interest-rate and foreign-exchange rate contracts (including the mark-to-market values of contracts, where positive).**

Freddie Mac does not have any foreign exchange-rate contracts. The attached chart provides summary information about interest-rate contracts, including the mark-to-market values of the contracts. As you can see from this chart, no matter whether the "obligation" is defined as the positive market value of $37.5 million, the negative market value of $70.2 million, or the net market value of negative $32.7 million, the resulting capital charge will be small relative to our calculated surplus. For each swap counterparty, the agreements allow for netting, although we are unclear as to whether the netting arrangements would satisfy the requirements of 12 C.F.R. Part 208, Appendix A, § III.E.5.

2. **Information concerning the risk-weight categories appropriate to the counterparties.**

The attached chart includes a listing of the counterparties to our interest-rate contracts. Two of the seven counterparties are federally insured U.S. depository institutions; both short-term and long-term claims on such institutions appear to fall into the 20 percent risk-weight category (12 C.F.R. Part 208, Appendix A, § III.A.2.). The remaining institutions appear to fall into the 100-percent risk-weight category (12 C.F.R. Part 208, Appendix A, § III.A.4.).

3. **Information concerning the nature of any related collateral or guarantees.**

The $9.1 billion in interest-rate swaps (notional value) outstanding as of June 30, 1993, is backed by approximately $15.7 million in collateral. Only high quality, marketable securities are eligible collateral. Specifically, cash, Treasury securities, agency securities, and commercial paper rated at least A-1 by Standard and Poors and P-1 by Moody's are eligible. As of today, 72 percent of the outstanding collateral is Treasury notes and 28 percent is Ginnie Mae securities. Claims secured by this collateral fall into the 20-percent risk-weight category (12 C.F.R. Part 208, Appendix A, § III.B.1.).

There are no third-party guarantees outstanding in connection with our interest-rate contracts.

I would like to reemphasize one general point about interest-rate contracts from my letter of July 30, 1993. The approach used in that letter of applying a 0.05 percent capital requirement to such contracts is extremely conservative relative to the Federal Reserve's risk-based capital regulations because the Federal Reserve treats interest-rate swaps newly issued by commercial banks as one one-hundredth as risky as single-family mortgages. The 0.05 percent suggested in my letter treats such swaps as one-eighth as risky as single-family mortgages. We believe that a more detailed analysis incorporating the above information would result in a lower capital requirement.

4. **Information on multifamily credit supports.**

Freddie Mac has no multifamily credit supports outstanding.

5. **Further information on "sold portfolio remittances pending."**

"Sold portfolio remittances pending" arise from our accounting cycle. Once payments of mortgage principal have been received by the servicer and placed in custodial accounts on our behalf, we reduce the reported amount of the mortgage-backed securities, or "sold portfolio." We are, of course, obligated to pass these payments on to mortgage-backed security investors and therefore have included such amounts in our required minimum capital computation. Because these funds are sitting in well capitalized financial institutions for only a few days, a strong case could be made that the applicable capital requirement should be significantly lower than that for mortgage-backed securities, because the collateral associated with that obligation, the individual mortgages, entails more credit risk. For purposes of initially suggesting the overall capital classification, however, and until a more definitive measurement is developed, we chose the conservative approach of using the same capital requirement that applies to mortgage-backed securities.

As reflected in the above responses, your request relates principally to Section 1362(b)(3) of the Federal Housing Enterprises Financial Safety and Soundness Act of 1992 (FHEFSSA). As I mentioned in my letter of July 30, this section of FHEFSSA needs to be clarified by regulation. Specifically, both the definition of off-balance sheet obligations and the appropriate capital charge for these obligations need to be specified.[1]

In the absence of specific regulations, we took a conservative approach and estimated our capital surplus to be $531 million as of June 30, 1993. In light of the size of this surplus, I believe that the matters identified in your letter have a small effect on the capital requirement, and should not affect the overall classification.

In this connection, I would think that the matters raised in your letter need not delay your initial classification of Freddie Mac's capital adequacy because none of these matters is material in relation to a capital surplus of $531 million. As I understand it, while § 1362 of FHEFSSA requires OFHEO to classify Freddie Mac's capital condition, nothing in FHEFSSA compels OFHEO to compute or release a precise figure for Freddie Mac's capital surplus. Once OFHEO satisfies itself that Freddie Mac's capital meets the statutory requirement, OFHEO has satisfied its statutory duty. Indeed, Freddie Mac would prefer that no such figure be released by OFHEO until

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[1]While the framework outlined in 12 C.F.R. Part 208, Appendix A may prove a useful starting point for identifying issues in this transition period, we would like to point out that there are certain fundamental differences between FHEFSSA and banking regulations. In particular, Section 1362(b)(3) refers to "obligations" which would seem to suggest a liability approach, as opposed to the asset-based approach that is applied in the banking regulatory scheme. Moreover, FHEFSSA requires that the capital requirement be set relative to the risks presented by mortgage-backed securities, whereas the banking regulations establish a capital requirement relative to an 8-percent benchmark. These problems illustrate the difficulties of applying a regulatory scheme designed for one set of institutions (banks) to another set of institutions (the housing enterprises). While we understand that the necessity for quick action to meet the initial classification deadline has impelled your reference to bank regulations, we trust that this is a temporary measure. We look forward to working with OFHEO to develop OFHEO's own regulations that will be adapted more specifically to the enterprises' business and relevant legislation.

the definitional matters discussed in this letter can be resolved in the regulatory process. Therefore, it is not necessary to reach definitive conclusions, at this time, on all issues that might affect the precise calculation of the capital requirement.

I trust this information responds fully to your request. If you need any additional information or clarification, please contact me.

Sincerely,

John Gibbons
Acting Chief Financial Officer

cc: David Pearl

Attachment

CONFIDENTIAL

Freddie Mac

Summary Information About Interest-Rate Agreements as of June 30, 1993
(Dollars in Thousands)

Counterparty	$ Notional	Positive Market Value	Negative Market Value	Net Market Value	Collateral
Bankers Trust	$2,500,000	$21,848	($1,492)	$20,356	$9,800
Goldman Sachs	$575,000	$4,540	($1,909)	$2,631	$3,500
First Boston	$140,000	$0	($1,680)	($1,680)	$0
Lehman	$2,625,000	$5,726	($3,315)	$2,411	$2,400
Merrill Lynch	$2,695,000	$869	($59,589)	($58,720)	$0
Salomon Brothers	$195,000	$0	($2,256)	($2,256)	$0
Citibank	$375,000	$4,540	$0	$4,540	0
TOTAL	$9,105,000	$37,523	($70,241)	($32,718)	$15,700

Positive FRE owed
Negative FRE owes

DERIVATIVE PRODUCT ACTIVITIES OF COMMERCIAL BANKS

Joint Study Conducted in Response to Questions Posed by Senator Riegle on Derivative Products

Board of Governors of the Federal Reserve System
Federal Deposit Insurance Corporation
Office of Comptroller of the Currency

January 27, 1993

This study was conducted by the Federal Reserve Board, the Federal Deposit Insurance Corporation, and the Office of the Comptroller of the Currency (the "banking agencies") in response to questions raised by Senator Riegle in letters to the agencies dated September 29, 1992. Pursuant to the Senator's request, the scope of this study has not been confined to the specific questions asked. Rather, the study takes a somewhat broader approach in discussing the various issues raised. Care has been taken to address each of the specific questions asked by Senator Riegle. Appendix 1 cross-references the Senator's specific questions to the appropriate sections of this study.

The study consists of three sections. Section I delineates a set of instruments that defines derivatives for the purposes of this study. It also describes the nature and motivation of various participants, and identifies and evaluates the manner in which derivatives transactions are initiated. Section II identifies the various risks associated with derivative products. Section III discusses banking supervision and payment system policies designed to limit the risks to individual banking organizations and the entire banking system. Appendix II provides some data on the level of derivative activity, and Appendix III is a glossary of terms used in this study.

I. Introduction to Derivative Products.

Broadly defined, a derivative is a financial contract whose value depends on the values of one or more underlying assets or indexes of asset values. Under this broad definition, instruments such as mortgage-backed securities and collateralized mortgage obligations could be classified as derivative products. However, the banking agencies generally use the term "derivative products" to refer to financial contracts such as forwards, futures, forward rate agreements (FRAs), swaps, options, and caps/floors/collars, whose primary purpose is to transfer price risks associated with fluctuations in asset values rather than to borrow and lend funds. Derivative instruments can be divided into categories based on the nature of the underlying assets or indexes that determine the contract's value. Most instruments fall into one of the following four categories:

- Foreign Exchange Contracts.
- Interest Rate Contracts.
- Commodity Contracts.
- Equity Contracts.

While some derivative transactions have very complex structures, all of them can be divided into the basic building blocks of options, forward contracts, or some combination thereof. Moreover, derivatives can be analyzed much like traditional financial products, that is, in terms of the structure of cash flows and the underlying index or asset value.

3

Derivatives are used as risk management tools and as a source of revenue. From a risk management perspective, when used prudently, derivatives can offer managers efficient and effective methods for reducing certain risks through hedging. Generally, hedging is the process of taking a position in an instrument that produces a price movement which is opposite to an existing or anticipated position, with the goal of protecting that existing or anticipated position against loss due to fluctuations in prices, interest rates or exchange rates. Derivatives may also serve as direct sources of revenue through "market-making" functions, speculation, and risk arbitrage. "Market-makers" enter into transactions with customers and with other market-makers. They seek to profit by maintaining a generally balanced portfolio from which they expect to earn a bid/offer spread. Speculators, on the other hand, hope to profit by accepting the risk that stems from taking outright positions in anticipation of price movements. Obviously, such risks offer the opportunity for large gains as well as the possibility for large losses. Arbitragers also attempt to take advantage of price movements, but focus their efforts on trying to profit from small discrepancies in price among similar instruments in different markets. By simultaneously buying and selling different instruments, they seek to capitalize on market inefficiencies while controlling price risk.

4

Markets for Derivative Products. Derivative contracts are entered into throughout the world on organized exchanges[1] and through over-the-counter (OTC) arrangements.

There are several fundamental differences between the exchange and OTC derivative markets. Exchange-traded contracts are standardized as to maturity, contract size, and delivery terms, whereas OTC contracts are custom tailored to the client's needs and often specify commodities or instruments and maturities that are not offered on any exchange. OTC markets involve customized derivative products in which the parties negotiate all details of the transactions or agree to certain simplifying market conventions. In most cases, the terms are negotiated over the telephone and finalized in writing. OTC transactions occur among market-makers and between market-makers and their customers.

Another important distinction between exchange-traded and OTC contracts is that the exchange or a related clearing organization "guarantees" performance on the contract by interposing itself as the buyer to every seller and the seller to every buyer. The clearing organization typically seeks to ensure its own financial integrity through creation of a risk management system, whose elements include membership requirements, daily marking-to-market of contract values and

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[1]Examples of exchanges include the American Stock Exchange, the Philadelphia Stock Exchange, the Chicago Mercantile Exchange, the Chicago Board Options Exchange, and the Chicago Board of Trade in the U.S.; the London International Financial Futures Exchange; and the Tokyo Financial Futures Exchange.

some form of margin requirements. With the clearing organization guaranteeing contract performance, price and maturity are the factors in determining a trade. In contrast, market participants in the OTC market select their counterparty bilaterally based on credit-worthiness and other factors in addition to price. If necessary, the parties to a derivatives contract in the OTC market make their own arrangements for assuring the contract's performance. Such arrangements can include the collateralization of transactions, and the use of legally enforceable netting agreements. Rigorous credit analysis of prospective and existing counterparties is essential in OTC transactions. The most common OTC derivative instruments are:

- Foreign Exchange Contracts: Forward Contracts, Options, and Currency Swaps.
- Interest Rate Contracts: Forward Rate Agreements (FRAs), Interest Rate Swaps, and Interest Rate Caps/Floors/Collars.
- Commodity Contracts: Precious Metals and Oil Swaps.
- Equity Contracts: Equity-Indexed Options and Swaps.

Nature and Motivation of Participants. There are at least two broad categories of participants in the derivative markets: "end users" and "intermediaries" (or "dealers"). In principle, these two classes of participants are distinguishable by their motivations. In practice, some participants act in both capacities.

End users typically enter into derivatives transactions for a variety of reasons: to reduce financing costs; to increase the yield of certain assets; to hedge interest rate, currency, commodity, or equity exposure generated by the structure of the enterprise's normal business; to implement short-term asset liability management strategies taking into consideration accounting conventions and capital regulations; or to speculate on anticipated market movements.

A wide variety of business enterprises are end users. They include, but are not limited to, banks, corporations, savings associations, insurance companies, institutional investors (pension funds, mutual funds, etc.), government agencies, and international agencies.

Intermediaries, which are sometimes referred to as "dealers," cater to the needs of end users by "making markets" in OTC derivative instruments. In doing so, they expect to generate income from transaction fees, bid-offer spreads, and their own trading positions. Some "market making" activities of intermediaries involve compensation on a fee basis. However, for most transactions no fee is charged. Rather, compensation is earned by arranging the transaction so that one party to the contract (i.e. the "seller") receives an amount slightly less than that paid by the other party (i.e. the "buyer"). This difference between the payments of the two parties is termed the bid-offer spread. For example, a dealer may arrange a swap whereby one party pays a fixed rate of 8.05 percent, and the other party receives a fixed rate of 8.00 percent. The 0.05

percent difference is the bid-offer spread the intermediary receives.

Intermediaries typically act as counterparty to end users rather than functioning purely as an agent or broker. As a result, intermediaries may build up sizable positions which they then may seek to hedge by entering into OTC derivative contracts, by taking positions in the cash markets, or by using exchange-traded instruments. Intermediaries can also enter into derivative contracts to hedge or "square" positions on their own balance sheets.

Another source of income for intermediaries is trading profits. Such income can stem from taking outright positions in anticipation of market moves. They can also take the form of spread trading and risk arbitrage where the trader attempts to take advantage of small transitory discrepancies in the values of similar instruments across markets.

Important intermediaries, or derivatives dealers, include major banks and securities firms in the United States, the United Kingdom, Japan, France and Switzerland. As intermediaries, banks have traditionally offered foreign exchange and interest rate risk management products to their customers and generally view derivative products as a financial risk management service. By tailoring these transactions to their customers' needs, banks are able to offer more flexibility than is available using exchange-traded derivatives, particularly for hedging longer-term positions.

B

Data on the notional value of derivative contracts indicate that, for U.S. banks, most of the volume in derivative products is heavily concentrated at a few large institutions that are among the most active intermediaries in the OTC derivative markets (Exhibit 1). The concentration of derivative activity among large banks has been relatively stable over the past several years. On an aggregate basis, bank holding companies with less than $10 billion in assets, have shown no appreciable increase in the relative volume of their derivative holdings since the banking agencies began collecting comprehensive data in 1990. These small and regional banking institutions are primarily end users who generally use derivatives to manage risks arising from their traditional lending activities.

The notional amounts presented in Exhibit 1 represent the principal amounts of the underlying asset or assets to which the values of the derivative contracts are indexed. They are the hypothetical amounts used to calculate contract cash flows and are generally never actually paid or received. Accordingly, the notional value of a derivative contract is not a useful measure of credit exposure. That exposure generally amounts to only a small fraction, say two to three percent, of notional value. For example, the notional principal amount of an interest rate swap is the hypothetical basis used to calculate the periodic interest rate payments of the swap. The fixed and floating interest rates are multiplied by the notional value to determine the amount of each payment. In this case, the

replacement cost or the positive market value (if any) of the swap is the preferred measure for assessing the amount of credit exposure if the counterparty to the agreement defaults. The market value of a derivative contract is determined by calculating the present value of all expected future cash flows of the contract. Since the expected cash flows are just a fraction of the hypothetical notional amount, the market value or replacement cost is only a small fraction of that amount. Available replacement cost data (Exhibit 2) reinforce the point that derivative activity is highly concentrated at a few large institutions.

Exhibit 1

Volume and Growth of Derivative Activities
at U.S. Bank Holding Companies
(By asset size of company)

Derivative Activity	September 1990			June 1992		
	Total Volume*	Percent of Volume		Total Volume*	Percent of Volume	
		BHCs >$10 Billion	BHCs <$10 Billion		BHCs >$10 Billion	BHCs <$10 Billion
Interest Rate Swaps	1,625.1	98.58	1.42	1,893.4	98.21	1.79
Interest Rate Futures/ Forwards	972.8	99.27	0.73	1,545.8	98.78	1.22
Interest Rate Options	699.2	98.92	1.08	923.1	98.95	1.05
Foreign Exchange Swaps	267.1	99.98	0.02	305.3	99.95	0.05
Foreign Exchange Options	482.8	99.98	0.02	465.6	99.93	0.07
Commodity Swap	3.5	98.70	1.30	14.3	100.00	0.00
Commodity Options	40.7	99.84	0.16	67.5	97.69	2.31
Commodity Futures/Forwards	30.5	99.62	0.38	20.6	99.17	0.86

* Notional Values in Billions of Dollars (See discussion of notional values in text)
Source: Quarterly data FR Y-9C

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Exhibit 2

Largest Replacement Cost Credit Exposures[1]
at U.S. Bank Holding Companies[2], September 1992

	Company	All Contracts		Interest Rate Contracts[3]		Exchange Rate Contracts[3,4]	
		$ Billions	Percent of Total Assets	$ Billions	Percent of Notional Amount	$ Billions	Percent of Notional Amount
1	Citicorp	30.2	13.5	6.8	1.5	23.4	2.7
2	Chemical	27.4	19.7	9.5	1.3	17.9	3.3
3	J.P. Morgan	27.1	23.0	11.6	2.2	15.5	3.7
4	Bankers Trust	24.7	33.4	7.3	2.2	17.5	4.5
5	BankAmerica	22.4	12.0	6.7	2.5	15.7	4.0
6	Chase Manhattan	21.7	22.3	5.8	1.7	15.9	3.2
7	First Chicago	10.9	22.2	2.3	1.4	8.7	3.8
8	Continental Bank	2.4	10.5	1.6	2.1	0.8	2.9
9	Bank of New York	2.2	5.1	0.5	1.9	1.7	3.4
10	Bank of Boston	1.0	3.2	0.4	2.5	0.6	4.0
Totals							
10 Companies		170.0	17.3	52.5	1.8	117.7	3.4
All Other Large BHC's		8.5	0.5	6.9	3.2	1.3	3.0

1. Replacement cost basis (positive values only). Excludes futures contracts.
2. Companies with $1 billion or more in total assets.
3. Exposures are measured gross, except where individual contracts are netted bilaterally through novation, e.g., foreign exchange contracts netted under FXNET agreement.
4. Excludes contracts with original maturities of 14 days or less.

Source: FR Y-9C

II. **Risks Arising from Derivative Product Transactions**.

In many ways the risks associated with derivative instruments are the same types of risks banking institutions face daily in their lending, treasury and trading functions. These include counterparty credit risk, market risk, settlement risk, operating risk, market liquidity risk, legal risk, and aggregate or interconnection risk. Derivatives merely repackage these risks in different combinations that, in comparison to traditional bank instruments or products, can be quite complex. As a result, some derivatives may require different risk measurement methodologies and require stronger risk control and management systems.

Counterparty Credit Risk. Counterparty credit risk is the risk of loss in the event the counterparty to a transaction defaults, or otherwise fails to perform under the terms of a contract. Once the amount of credit exposure is estimated, it can be evaluated and controlled through traditional methods of assessing the credit-worthiness of a counterparty.

For derivative transactions involving firm commitments (forwards, FRA's, futures and swaps), credit exposure to the default of a counterparty amounts to the positive value or current replacement cost of the contract. As discussed earlier, replacement cost differs from the notional principal of a contract, which is usually merely the hypothetical basis on which payments to be exchanged are calculated rather than an amount

actually to be exchanged. The replacement cost or positive value of a contract is derived from differences in the initial contract terms and the current market terms for an identical contract.

Since most derivatives involving firm commitments are entered into at no cost (other than possibly a nominal fee) to either party, they have zero value and therefore, no credit exposure at inception. At that point, the only potential risk is that subsequent changes in the market price of the instrument, index or interest rate underlying the contract will create a positive contract value that might be forfeited in the event of a counterparty default. Once market prices move to create a positive contract value, the contract has the current credit risk exposure of its replacement cost as well as the potential future credit risk that can arise from subsequent changes in market prices.

Options and derivative contracts which contain options (options, swaptions, and rate protection agreements) also face both current and potential credit exposure. However, a difference with option contracts is that they have a positive value at inception reflected by the premium paid by the purchaser to the writer of the option. The value of the option may be reduced as a result of market movements, but cannot become negative. Therefore, the party that buys the option contract will always have credit exposure (unless the option has zero value), and the party selling the option contract will not.

For the vast majority of derivatives outstanding, standard methods exist for approximating the current replacement

cost. For example, the value of an interest rate swap can be calculated as the discounted present value of the cash flows a counterparty is expected to receive. Such methodologies allow current credit exposure to be estimated with confidence for the vast majority of contracts.

Estimating the potential future credit exposure of derivatives is a more difficult task. Unlike the credit exposure of a loan, the exposure of a derivative transaction can change as the price, index or rate of the underlying instrument changes (i.e., as the value of the contract changes). These changes cannot be known with certainty. However, given certain variables, such as the volatility of the price, index, or rate of the instrument underlying the contract, the probability that a contract will incur a defined level of credit exposure can be estimated.

The credit exposure of derivatives traded on exchanges (futures and options on futures) is fundamentally different than derivatives exchanged over-the-counter (forwards, futures, FRAs, swaps, swaptions, and some options). Futures exchanges use two devices to manage and virtually eliminate credit risk. First, the value of each position is reconciled to the market, or "marked-to-market" at the end of each trading day. The change in value of the position is paid to or received from the futures exchange (through its clearing members) at the end of every day. Thus, the performance period of a futures contract is reduced to one day, and the risk of counterparty default declines accordingly.

Second, all futures market participants are required to post a performance bond (called "initial margin") equal to a certain percentage on the standardized notional principal amount of the contracts held. If the value of the position should fall, causing the margin account to decrease below a preset maintenance level, payment is required (called "variation margin") to bring the margin account back to the maintenance level.

In acting as the buyer for each sale and the seller of each purchase, the exchange is the counterparty to all trades. The clearinghouse mechanism of the exchange substitutes the combined credit-worthiness of exchange members for that of an individual counterparty. Given the credit enhancements of daily settlement of gains and losses and margin requirements, the futures exchanges significantly reduce the counterparty credit risk in futures contracts.

In contrast, the bilateral nature of OTC derivative transactions, along with their generally longer performance period (owing to the absence of the standardized margin requirements and daily settlements) can lead to significant counterparty credit exposure. The presence of credit risk effectively limits participation in these highly competitive markets to financially strong institutions. Even among them, market discipline and regulatory action serve to limit both risk taking and active involvement by institutions that show signs of financial problems. Counterparties routinely reduce exposures to weakening institutions by reducing the volume and maturity of

transactions they conduct with those institutions, and by requiring margin to mitigate credit risk.

Market Risk. The market risk of a derivative, like other financial instruments, is the risk of a decline in the value of the contract arising from adverse movements in the price, index, or rate of the instrument underlying the contract. This market risk depends both on the potential magnitude of changes in the underlying asset (often termed its "volatility") and on the relationship between changes in the value of the underlying asset and the value of the derivative. The latter factor, the "price sensitivity" of the derivative, can vary considerably depending on the terms of the derivatives contract. For options, in particular, the price sensitivity may vary considerably as the price of the underlying asset changes.

Unlike its credit risk, the market risk of a derivative is generally similar to the cash instrument underlying the contract. This is by design since these contracts are utilized largely for the purpose of hedging, or offsetting, the price risk of positions linked to the instrument, indices, or other assets values underlying the derivative.

For both dealers and end users market risk must be evaluated on a portfolio basis. As described in Section I, dealers attempt to derive income from the bid-offer spread, so they tend to hold substantial positions on both sides of a contract. The price sensitivity of certain positions should offset the sensitivity of others. Therefore, market risk to the

institution is not measured by the price sensitivity of the individual contract, but by the net price sensitivity of the dealers portfolio of contracts. For example, the market risk that a swap dealer is subject to would be measured by the net change in the value of the swap portfolio, along with the change in value of any instruments used to hedge the portfolio (e.g., interest rate or currency futures), for small changes in the relevant price or rate (i.e., interest rates, or currencies values).

Likewise, an end user may hold derivatives for the purpose of offsetting the market risk of a particular asset or liability on its balance sheet or to reduce its overall market risk. Again, market risk is not a matter of the price sensitivity of the individual contract, but the effect the derivatives have on the institution's net market risk. The question is not whether the derivatives themselves entail market risk, but whether they effectively reduce the net market risk of the institution.

With regard to specific questions raised on the market risk exposure of U.S financial institutions to recent events in foreign markets, available data indicate that the 47 percent decline in the Japanese stock market between March 1991 and August 1992, as measured by the NIKKEI index, did not have a material effect on the condition of U.S. depository institutions. Though foreign subsidiaries of U.S. banks can own equities, National banks and state chartered banks are prohibited from owning common stocks. Although the market risk exposure of

equity-linked derivative positions held by banks during the Japanese stock market decline is unknown, to date, there have been no significant losses reported by U.S. banks on positions in Japanese equities or equity derivatives.

Coinciding with events in the European currency markets, the foreign exchange income of many U.S. banks rose sharply in the third quarter of 1992, with large gains reported by U.S. money center banks. On an aggregate basis, banks reported total trading gains and fees from foreign exchange transactions of $1.24 billion during the third quarter of 1992. This compares to $627 million and $562 million in the first and second quarters, respectively. Approximately 98% of this revenue was reported by banks with greater than $5 billion in assets. Much of this increase in foreign exchange revenues appear to be due mostly to dealer profits from the large volume of their market making dealer activity and increased bid/ask spreads. Reportedly, the banks experienced higher revenue from spot and forward foreign exchange trading and client driven derivatives activity.

The markets for some derivative instruments reportedly experienced reduced liquidity during the European currency crisis. This complicated hedging strategies and heightened market risks for some intermediaries during this period. Nevertheless, it is unlikely that the underlying markets would have performed as well as they did in September without the existence of related derivatives markets that enabled currency positions to be managed, albeit with some difficulty in some instruments.

Settlement Risk. Settlement risk is the exposure to loss arising when an institution either pays out funds or delivers assets before receiving assets or payment from its counterparty. As such, settlement risk can assume several forms. In foreign exchange markets, for example, the time differences between normal payment hours in different countries can create time gaps between offsetting payments from a single transaction, exposing institutions to settlement risk during that period (i.e. Herstatt risk). In another form, settlement risk can occur when delivery of securities is not synchronized with payment for them.

Operating Risk. Operating risk is the risk that inadequate internal controls, procedures, human error, system failure, or fraud can result in unexpected losses. This risk could lead, for example, to open positions or credit exposures that exceed established limits. In some cases, derivative transactions are so intricate that they can be developed and priced only through sophisticated mathematical models. Given that complexity, the internal risk management and control systems of banks engaged in these transactions must exhibit a high level of sophistication. It is also essential that effective lines of communication be established between senior management and the management and staff of the operating and trading departments that execute, value, record, and monitor derivative product transactions. This communication must be effective, so that managers at all levels fully understand and act within the parameters of the bank's overall risk management strategy and, importantly, so that senior

management is aware of, and comfortable with, the full range of risks taken. Indeed, inaccurately assessing or controlling the risks associated with derivative products is one of the more likely sources of problems facing institutions involved with derivative instruments.

As noted, among U.S. banks, only a few large institutions appear to have material exposures arising from activity in the derivative products markets. Most of them are perceived by the market to present little credit risk and, in practice, they all have sophisticated risk management procedures and capital bases large enough to absorb sizable derivative product losses. Moreover, the concentration of derivative activities in only a few large institutions facilitates supervision of their activities. Therefore, the failure of one of these institutions as a result of derivative products appears unlikely in the current risk environment.

Market Liquidity Risk. Market liquidity risk is the risk that a financial asset or off-balance sheet instrument cannot be sold or replaced quickly at, or very close to, its fundamental value. Market liquidity can change gradually over time, or rapidly in times of market stress, and in some markets can vary significantly over the course of the trading day.

Exchange-traded derivatives are less subject to market liquidity risks than are OTC traded derivatives because of their use of standardized contracts and the settlement role of the clearinghouse. Generally, the liquidity of these instruments is

impaired only in times of financial stress. By comparison, the credit risk and the lack of standardized contracts entailed in OTC-traded derivatives may result in periods of reduced liquidity and, thus, may increase the chance of a sudden erosion of liquidity in a particular OTC market segment. Market liquidity risk has become a more important concern in recent years as portfolios of off-balance sheet instruments have grown and the need to hedge them has increased.

Legal Risk. The most significant losses to date in derivative markets have resulted from legal risk. A number of participants in the swap markets suffered losses on contracts with local authorities in the United Kingdom when those jurisdictions were found to be without authority to enter into swap contracts, that is, that the contracts were ultra vires. Subsequently, defaults by local authorities resulted in losses to their counterparties, as rates had moved against the local authorities.

In the United States, a significant source of legal risk has been the potential application of the off-exchange trading prohibition of the Commodity Exchange Act ("CEA"). For the purposes of the CEA, the terms "futures" and "options" have been interpreted broadly by the CFTC, leading to concerns that OTC derivatives would be found to be illegal off-exchange futures. After initially indicating that swap contracts would be subject to the provisions of the CEA, the CFTC issued a policy statement in 1989 (54 Federal Register 30694 (July 21, 1989)) indicating that swap agreements meeting certain conditions would

not be considered to be illegal futures. The CFTC is currently in the process of replacing that policy statement with a rule (57 Federal Register 53618 (November 12, 1992)) under the expanded exemption authority it received as a result of the recent passage of the Futures Trading Practices Act of 1992. Although this change will significantly reduce the risk that most swaps and similar instruments would be found to be illegal off-exchange futures, the policy statement and the proposed rule place a number of conditions on the exclusion of these transactions from the CEA, particularly with regard to methods for reducing credit and settlement risk.

Another source of concern relates to the legal enforceability of netting provisions under which exposures from multiple derivative transactions are netted. Master agreements with netting provisions are used to reduce the overall level of credit risk to a counterparty. Where a bank has undertaken a number of contracts with a particular counterparty subject to a master agreement, the bank runs the risk that, in the event of the counterparty's failure, the receiver for the counterparty will refuse to recognize the validity of the netting provisions. In such an event, the receiver could repudiate individual contracts under which the counterparty was obligated to pay the bank, while demanding payment on those contracts on which the bank was obligated to pay the counterparty. Although relevant in dealings with some non-U.S. counterparties, this risk has been significantly reduced for financial institutions in the United States by recent amendments to the Bankruptcy Code and the

Federal Deposit Insurance Act and by enactment of the payment system risk reduction provisions of the Federal Deposit Insurance Corporation Improvement Act.

Banks have taken steps to limit potential legal risks by obtaining opinions of counsel that counterparties have legal authority to enter into contracts and by strengthening due diligence reviews of counterparties. Banks and other market participants also are working together through an industry trade group, the International Swap Dealers Association, to address common legal concerns.

Aggregation or Interconnection Risk. Aggregation or interconnection risk results from the interaction of positions in one instrument with other positions, both in derivative products and in the underlying asset markets. These interactions frequently involve both cross-border and cross-market links and a wide range of individual financial instruments. For example, a capped Swiss Franc denominated floating rate note issued in the Euromarkets might be swapped into floating rate dollars by means of a Swiss Franc/U.S. Dollar cross currency interest rate swap, and a cap identical to that imbedded in the note might be sold by the issuer to investors. This packaged transaction involves floating-rate notes in the Euro-market, the swap market, the foreign exchange market, and the interest rate options market (by way of the cap sold to investors). Such multi-legged positions are growing rapidly, both in size and variety. Because of the

increasing prevalence of these positions, a major default or disruption may not be isolated as easily as was once the case.

Interconnection risk can also be seen as one basic element in systemic risk: the risk that a disruption by any participant or group of participants causes widespread difficulties throughout financial markets. The growth of activity in derivative products along with the tendency for derivatives to strengthen the linkages between market segments, has increased the possibility that disruptions or increased uncertainty in any market might, nevertheless, affect other markets more quickly now than in the past. The complexities and interdependencies inherently associated with multi-legged positions -- whether involving derivatives or not -- are such that the sudden failure of a major market participant might disrupt the financial system, especially if that failure were to occur in an already unsettled market environment.

Certain symptoms of the potential for such problems were evident in the circumstances of the stock market crash of 1987 and the bankruptcy of Drexel Burnham Lambert in early 1990. In both situations, the problems were contained, but the containment efforts required considerable efforts on the part of the authorities and on the part of market participants. Those episodes, as well as the continued rapid pace of change and innovation in financial markets, underscore the importance of ongoing efforts of the banking agencies to design prudent banking supervisory and payment system policies to limit the risks to

individual banking organizations and systemic risks. These efforts are discussed more fully in the following section.

III. Supervision and Regulation of Derivatives.

To keep abreast of new and ever-changing developments in derivative markets, the agencies rely on numerous sources of information: on-site examinations and inspections; financial data reported periodically by banking institutions; information obtained during discussions and visitations with market participants; studies, publications, and other communications with academics, market practitioners, and supervisory authorities; and the varied research and training activities of each agency. Examination techniques and supervisory procedures are revised accordingly.

Examinations. On-site bank examinations and inspections are the cornerstone of supervisory efforts to evaluate the risks inherent in off-balance sheet transactions and virtually all other banking activities. Full-scope examinations include detailed reviews of management systems and assessments of capital adequacy, asset quality, earnings, and liquidity. They are often supplemented with targeted exams designed to address specific concerns, and also with meetings with bank management to discuss relevant concerns and to review developments in the market.

Any full-scope, on-site examination contains a review of the institution's infrastructure for measuring and controlling

risk. This review may be especially important regarding derivative activities because of their complexity and the need to measure and evaluate the risks accurately, set internal limits, and maintain adequate controls and information systems. To receive a favorable assessment, the risk management approach must be integrated and comprehensive, and the bank's senior management must be well-informed about the bank's risk-taking activities, the nature of the underlying risks, and the interrelationships of different types of risk.

Part of a bank's internal control process for its derivatives activities should include a comprehensive audit program, staffed by independent and knowledgeable professionals. Examiners review not only the audit program, but also the adequacy of the front office procedures and back office processing regarding, for example, the pricing and valuing of bank derivative portfolios.

The banking agencies closely monitor troubled institutions through on-site examinations and off-site analysis of reported information. In fact, institutions that are troubled or that otherwise show high-risk profiles undergo greater scrutiny, and are typically required to submit additional information on their activities to the appropriate supervisory agency. Specifically, the banking agencies generally require troubled institutions to minimize their existing risk and to limit the size of new off-balance sheet activity. The regulatory agencies also monitor and limit participation of troubled institutions in instruments that are not credit sensitive. Such

supervisory oversight significantly reduces the potential that a troubled institution might seek to recover past losses by taking speculative positions in derivative instruments. To date, no commercial bank failure has resulted from derivative products exposure.

Organizational structures and operating practices may differ significantly among banking institutions, with exposures taken by one subsidiary bank sometimes offset by positions in an affiliated bank of the parent holding company. Such practices should present less potential risk to the federal safety net with recent enactment of the cross-guarantee provisions of the Financial Institutions Reform, Recovery, and Enforcement Act of 1989 and, in any event, are also evaluated during on-site examinations and inspections.

Financial Data. Commercial banks are required to disclose certain information about their derivative and other off-balance sheet activities each quarter in their Call Reports. Bank holding companies provide similar data for the consolidated holding company in their quarterly Y-9C reports filed with the Federal Reserve. Both reports disclose the notional values of interest rate swaps, futures and forward contracts, option contracts, and similar contracts involving commodities and equities and are reviewed for accuracy during on-site examinations. This readily available information does not address the institution's actual exposures, but it is useful for identifying major market participants. It also provides a

reflection of market and institutional trends and helps the agencies determine the examiner resources needed to evaluate an institution's activity in sufficient detail.

In order to assess capital requirements under the international risk-based capital accord, the reports also collect information regarding the market replacement costs of interest rate contracts and foreign exchange contracts that are of positive market value to the reporting entity (futures and foreign exchange contracts with an original maturity of 14 days or less are excluded). While these data are incomplete in measuring the market value of all related contracts, they do reveal the entity's exposure to counterparty default, which is the objective of the capital standard and an important focus of supervisory attention.

Both the Call Report and the Y-9C data should be used carefully because of their inherent limitations and their specific design. With its narrower "bank-only" focus, the Call Report, for example, does not include transactions of the parent holding company or its other bank and nonbank subsidiaries. As noted above, both the call and Y-9C reports also exclude market value data for certain exchange-traded contracts as well as foreign exchange contracts with original maturities less than 14 days. On the other hand, annual report disclosures of the "amount of accounting loss," as required by Financial Accounting Standards Board's Statement No. 105 "Disclosure of Information about Financial Instruments with Off-Balance-Sheet Risk and Financial Instruments with Concentrations of Credit Risk,"

generally include these contracts. Such disclosures in annual reports may also differ from the market value data included in call and Y-9C report disclosures depending, for example, on how the organization discloses its contracts used for hedging purposes. Other than these differences, market value disclosures in Y-9C and call reports are generally similar to disclosures of the amount of accounting loss made in annual reports.

The growing volume and complexity of the derivatives market has caused the agencies to re-examine their informational needs regarding these and other off-balance sheet activities of banks, and some reporting changes are under consideration. In particular, agency staff is reviewing the extent to which bilateral netting arrangements should be reflected in the reporting of replacement cost exposures. In addition, current efforts on interest rate risk in response to section 305 of FDICIA will require increased disclosure of derivative exposures, and section 308 requires banks to establish standards to evaluate their exposures to weak institutions, including those arising from derivative products.

Market intelligence. All of the banking agencies rely on internal and external sources for gathering market intelligence. Because many off-balance sheet activities affect securities, foreign exchange and other markets, the agencies learn much about derivative activities through their on-going monitoring of these markets. Many of these efforts require extensive interviews with market participants, analyses of available data on transaction

volumes and prices, and theoretical assessments of the inherent risks. For example, the Federal Reserve open market and foreign exchange staffs in Washington and New York regularly monitor developments in a broad range of financial markets. The other banking agencies also have staff who spend full time focusing on new capital markets activities, including the various derivative instruments. External sources of information include organizations such as the International Swap Dealers Association and the various exchanges which provide information about current practices and emerging trends and about financial instruments and their risks.

Studies and publications. The banking agencies have participated in a number of studies and research efforts aimed at educating examiners, supervisory personnel, and other staff about developments in derivative markets. Such efforts conducted under the auspices of the Bank for International Settlements involve supervisors from other countries and also serve to inform senior bank managements of the risks in these activities as perceived by supervisory agencies. A series of BIS studies have been published: Recent Innovations in International Banking (the "Cross Report," 1986), Report of the Committee on Interbank Netting Schemes of the Central Banks of the Group of Ten Countries (the "Lamfalussy Report," 1990), and Recent Developments in International Interbank Relations (the "Promisel Report," 1992).

In addition to these international publications, each agency also undertakes its own studies. For example, the Federal Reserve Bank of New York has published a two-volume staff study entitled International Competitiveness of U.S. Financial Firms. Generally, such studies assess the risks and benefits of various activities while providing topical information about current market trends and developments.

In the discussions leading up to passage of the Futures Practices Act of 1992, the Congress indicated its intention to revisit the issue of the application of the CEA to OTC derivatives. The CFTC was directed to conduct a comprehensive study of the OTC derivatives markets, including an assessment of the need for additional regulatory controls and how such controls, if necessary, should be implemented. These are complex issues that deserve further study. In particular, before additional regulatory controls are implemented, the specific goals of such regulation would need to be specified more precisely and alternative means of meeting these goals also should be explored. The CFTC study and similar studies underway by the GAO, Group of Thirty, and others should assist both the Congress and the bank regulatory agencies in reaching conclusions about the need for additional regulation.

Payment and Settlement System Risks. The growth of derivative instruments has created complex chains of counterparty exposures and, in the case of exchange rate contracts, a significant expansion of payments and settlements activity. Consequently,

the Federal Reserve, in particular, closely monitors the payment and settlement mechanisms and has taken steps designed to reduce risks and guard against payments "gridlock." These efforts often involve coordinating general market information with examination findings.

Confidence in the clearing process is vital to maintaining the liquidity of a wide variety of markets for both derivative and underlying instruments, and has become more important as these markets have grown. As part of one effort, the Federal Reserve Bank of New York has formed the Payment and Settlement Committee--consisting of senior executives from financial institutions, clearing organizations, and securities exchanges--to facilitate communication among private-sector institutions, and between those institutions and regulators, on payment, clearing, and settlement issues. In addition, both the Board of Governors and the New York Reserve Bank have formed committees of senior Federal Reserve officials to evaluate and discuss payment systems issues.

The Federal Reserve has also been involved in international efforts to analyze and discuss clearing and settlement arrangements of various types. As part of this process, Federal Reserve Board Governor Angell chairs the Basle Committee on Payment and Settlement Systems, which consists of representatives from the central banks of the G-10 countries and serves as a forum for the monitoring and analysis of developments in payment and settlement systems, both domestic and cross-border.

Examiner training. The banking agencies periodically update bank examination procedures in order to keep pace with changes in banks' on- and off-balance sheet activities. The knowledge gained through the examination process, as well as through other intelligence gathering efforts, is crucial in this process, as it provides the basis for ongoing updates in examiner guidance and instruction. In recent years, bank examiners have received considerable training and guidance aimed at improving their ability to assess the off-balance sheet exposures of institutions. This guidance has taken the form of special courses and seminars addressing off-balance sheet activities, including options and foreign exchange instruments.

Conclusion. The banking agencies recognize that regulation cannot substitute for effective management. Whether a bank's management of the risks associated with its derivatives activities is prudent depends critically on the strength of its related policies, procedures, risk controls and management information systems. To date, those management processes have been generally successful. However, to keep pace with the rapidly changing financial environment, including expansion of derivatives activities, all market participants need to continue to enhance their procedures and infrastructures for managing and controlling risks. This effort will require increased management awareness and understanding of the nature of the risks assumed. It will also involve committing sufficient financial and managerial resources to the development of risk monitoring

systems and to the back office, accounting, and auditing functions.

In executing supervisory programs, the banking agencies have sought to ensure that the risks banks assume are prudently managed, controlled, and priced through appropriate capital requirements, examination procedures, and accounting and reporting standards. As pointed out in the previous section, the agencies are engaged in a number of on-going efforts, both domestically and internationally, to improve the reporting and supervision of derivatives activities and to limit the systemic risks posed by them. These efforts should allow the U.S. authorities to take appropriate actions to maintain the safety and soundness of the financial system while allowing the markets to continue to grow efficiently.

Appendix I

Cross Reference of Specific Questions With Study Discussions

Question 1

1a. Is there general agreement about what should be included in a list of derivative products? Addressed in Section I, page 2.

1b. Are there other products, beyond swaps, futures, forwards, and options, that might or should be included? Addressed in Section I, page 2.

Question 2

2a. Do you have complete data on the use of swaps, forwards, futures, and options by individual institutions? Addressed in Section III, pages 27-29.

2b. To what extent are derivatives concentrated in the largest institutions? Addressed in Section I, pages 8-11.

2c. Do smaller banks use derivative products? Addressed in Section I, page 8.

2d. Do you utilize information beyond that supplied in forms RC-L and RC-R of the call reports? Addressed in Section III, pages 25-34.

2e. Does the information on "the risk of accounting loss," that is now provided by publicly traded banks in their annual reports, tally with the call report data on replacement costs? Addressed in Section III, pages 28-29.

2f. Do you believe that the data you obtain are reliable? Addressed in Section III, pages 27-29.

2g. Are there instruments for which you do not collect data? Addressed in Section III, pages 27-29.

2h. Do you plan to obtain data on these series in the near future? Addressed in Section III, page 29.

Question 3

3a. Please explain the most important ways, in your judgement, in which an individual institution could get into difficulties through derivative instruments? Addressed in Section II, pages 12-24.

3b. How great, in your estimation, is the risk that a bank, thrift, or credit union, particularly a large institution, will fail in the next twelve months as a results of derivative products? Addressed in Section III, page 20.

Question 4

4a. In what ways can a troubled institution seek to recover losses (incurred perhaps, elsewhere) through derivative products? Addressed in Section III, pages 25-27.

4b. Has such wagering already occurred? Addressed in Section III, pages 25-26.

4c. Has it led to any failures, to date? Addressed in Section III, pages 26-27.

4d. How does the regulatory system attempt to keep abreast of such risk-taking? Addressed in Section III, pages 25-34.

4e. Is it successful? Addressed in Section III, pages 25-34.

4f. In what ways can supervision improve in this area? Addressed in Section III, pages 25-34.

Question 5

5a. What is the best way to measure the risk derivative products pose to the financial system? Addressed in Section II, pages 12-24.

5b. How serious is that risk (the risk of derivatives to the financial system), in your assessment? Addressed in Section II, pages 12-24.

5c. Can a failure at one institution be transmitted through derivative products to other institutions? How? Addressed in Section II, pages 23-24.

5d. How likely is such systemic risk? Addressed in Section II, pages 23-24.

Question 6

6a. Do the data measure to your satisfaction the risk of individual failure and systemic spillover? Addressed in Section III, pages 25-30.

6b. If (the data do)not (measure systemic risk to your satisfaction) how should these risks be measured? Addressed in Section III, pages 25-34.

Question 7

7a. Has the decline in value of the stock-market in Japan and the recent fluctuations in the European currency markets caused losses at U.S. financial institutions? Addressed in Section II, pages 17-18.

7b. In what ways were derivative products involved(in the decline in the Japanese stock market and recent currency fluctuations)? Addressed in Section II, pages 17-18.

Question 8

8a. Do examiners receive the training they need to evaluate management's handling of the risks from derivative products? Addressed in Section III, page 32-33.

8b. How is such training updated as financial technology evolves? Addressed in Section III, page 32-33.

Question 9

9a. Are the risks to financial institutions from derivative products increased by the fact that derivatives generally trade over the counter, without regulation? Addressed in Section II, pages 12-24.

9b. Is greater regulation of derivatives warranted (exchange traded versus OTC)? Addressed in Section III, pages 30-31.

9c. If so, what form might (greater regulation) take? Addressed in Section III, pages 30-31.

Appendix II

Market Outstandings and Trends in Selected Derivative Financial Instruments.

This section presents data on the volumes in selected derivative financial instruments. In most cases, the data are for year-end 1991, the most recent date for which consistent data is available for all of the instruments considered. More recent data is used where possible and where the use of such data permits meaningful comparisons across product categories or type of institution.

Aggregate measures of activity in derivative financial instruments indicate marked growth since year-end 1986 (Table 1). During this five year period open positions in exchange-traded futures and options increased over 500 percent. Interest rate futures and interest rate options account for the lion's share of the outstandings (94 percent) at year-end 1991, reflecting the wide spread use of these instruments as hedges for both on- and off-balance sheet transactions.

During this same five year period, outstanding notional principal positions in over-the-counter derivatives also experienced strong growth. At year-end 1991, the notional values of outstanding OTC derivatives stood at roughly $4.4 trillion, up 790 percent from the estimated $500 billion outstanding at year-end 1986. Eighty-seven percent of the $4.4 trillion outstanding, or $3.9 trillion, is comprised of interest rate swap and cross-currency interest rate swap transactions.

Exchange-traded Instruments. Information on the involvement of selected major financial institutions in futures and options on futures that are traded on the Chicago Board of Trade ("CBOT") and the International Money Market of the Chicago Mercantile Exchange ("CME-IMM") indicates that banks are most heavily involved in short-term interest rate futures (Table 3), such as the one-month LIBOR contract traded on the CME-IMM and the thirty-day futures contract traded on the CBOT (Table 3). Non-US banks account for the majority of bank positions in exchange-traded futures and options contracts.

Banks are also heavily involved in the eurodollar futures and options traded on the CME-IMM. At year-end 1991, banks accounted for 37 percent of the long, and 34 percent of the short, open positions in contracts on short-term interest rate futures. Bank participation in exchange-traded currency futures is much smaller both in comparison to their participation in interest rate futures contracts and to their OTC trading in foreign exchange.

Data on bank involvement in exchange-traded options on financial futures, which is also submitted to the CFTC, is contained in Table 3. With regard to exchange-traded options, banks are most heavily involved in the short-term market, in particular in options on short-term interest rate futures. Available data also show that banks are not active in options on stock index futures. It should be noted that the figures in Table 3 are not "delta adjusted" to give the cash equivalent of

the contract, rather they are based on the notional amount of the open interest.

Over-the-counter Instruments. As indicated by Table 1, the notional principal amount of interest rate swaps outstanding at year-end 1991 was $3,065 billion, or 349 percent above the year-end 1987 outstandings of $683 billion. Currency swaps, including cross-currency interest rate swaps, have exhibited similar strong growth. Outstanding notional principal for currency and cross-currency interest rate swaps was $807 billion at year-end 1991, a 341 percent increase over the year-end 1987 outstandings of $183 billion.

Data provided by the International Swap Dealers Association (ISDA) illustrates that the notional value of new interest rate swaps arranged in 1991 totaled $1,622 billion. This represents a 28 percent increase over the notional principal value of swaps arranged in 1990, and a 185 percent increase over the value of interest rate swaps arranged in 1988 (Table 4). Of this growth, 47 percent represents swaps between ISDA member counterparties, up from 34 percent in 1988. New currency swaps arranged in 1991 totaled $104 billion, up 55 percent from those arranged in 1990 and 165 percent from 1988 (Table 5). Intermember currency swaps were 32 percent of new swaps written in 1991 compared to 24 percent in 1988.

As pointed out in the body of the study, notional principal values are poor measures of the credit exposure of derivatives. Replacement costs, which generally run between 2 to

3 percent of notional principal values, are more representative of the true credit exposures of derivative contracts.

A wide variety of ancillary transactions has evolved alongside the swap market such as various interest rate protection agreements (caps, floors, and collars). Available data indicate that the aggregate notional principal amount of these instruments stood at $577 billion for the year-end 1991 (Table 6). Interest rate caps are the most widely used of these instruments, accounting for 55 percent of the outstandings. Of the $317 billion of caps outstanding at year-end 1991, approximately 40 percent were interbank transactions. In general, banks are sellers of caps to end-users wishing to lock in a maximum interest rate on a liability, and end-users are sellers of floors to banks. Quite often the buyer of a cap will simultaneously sell a floor in order to reduce the overall cost of the cap.

The amounts of swap-related derivatives denominated in currencies other than the U.S. dollar has increased in recent years. At year-end 1991 non-dollar denominated contracts for these products were 36 percent of the outstandings compared to 25 percent at year-end 1990.

Table 1

Markets for Selected Derivative Financial Instruments

Notional Principal Amounts Outstanding at Year End, U.S. $ Billion

	1986	1987	1988	1989	1990	1991	Percent Change 1986–91	Percent Change 1990–91
Exchange-traded Instruments	583	725	1,300	1,762	2,284	3,518	503	54
Interest Rate Futures	370	488	895	1,201	1,454	2,159	484	49
Interest Rate Options (1)	146	122	279	387	600	1,072	634	79
Currency Futures	10	14	12	16	16	18	80	12
Currency Options (1)	39	60	48	50	56	59	51	5
Stock Market Index Futures	15	18	28	42	70	77	413	10
Options on Stock Market Indices (1)	3	23	38	66	88	132	NMF	50
Over-the-counter Instruments (2)	500e	866	1,326	2,423	3,451	4,449	790	29
Interest Rate Swaps (3)	400e	683	1,010	1,539	2,312	3,065	666	33
Currency and Cross-Currency Interest Rate Swaps (3,4)	100e	183	316	434	578	807	707	40
Other Derivative Instruments (3,4,5)	–	–	–	450	561	577	–	3

NMF = Not a Meaningful Figure

e = estimate.

1 Calls plus puts.

2 No statistics are available on forward rate agreements or over-the-counter foreign exchange options. Only data collected by ISDA.

3 Contracts between ISDA members reported only once.

4 Adjusted for reporting of both currencies.

5 Caps, collars, floors and swaptions.

Sources: Futures Industry Association (FIA), various futures and options exchanges worldwide; International Swap Dealers Association (ISDA); BIS calculations.

Table 2

Open Interest in Exchange-traded Financial Futures Contracts in the United States*
For Selected Banks**

In billions of U.S. dollars at Year-end 1991

Type of futures contract	Total face value of open positions	Distribution of open positions					
		Futures Purchases (long)			Future Sales (short)		
		Banks			Banks		
		US	Non-US	Other	US	Non-US	Other
Short-term interest rate	1,166.4	171.9	253.9	740.6	124.4	273.4	768.6
Long-term interest rate	53.5	6.0	5.6	41.9	3.3	8.9	41.3
Currency	17.1	0.8	1.9	14.4	1.6	1.9	13.6
Stock Market Index	31.0	6.0	1.3	23.7	4.3	2.0	24.7

* Contracts traded on the CBOT and CME-IMM.
** Data derived from "Large Trade" reports submitted to the CFTC for over twenty large US banks and seventy-five non-US banks.

Sources: CFTC and BIS calculations.

Table 3

Open Positions in Exchange-traded Options on Futures Contracts in the United States*
Notional Amounts of Open Interest**

In billions of U.S. dollars at Year-end 1991

Type of options contract	Total face value of open positions	Distribution of open positions					
		Option Purchases (long)			Option Sales (short)		
		Banks			Banks		
		US	Non-US	Other	US	Non-US	Other
Call Options							
Futures on short-term interest rates	263.4	40.5	79.6	143.3	24.5	74.1	164.8
Futures on long-term interest rates	30.2	3.1	5.3	21.9	0.9	5.6	23.7
Futures on currencies	15.0	0.4	4.0	10.6	1.0	4.1	9.8
Futures on stock market indices	5.6	0	0	5.6	0.1	0.3	5.2
Put options							
Futures on short-term interest rates	364.5	57.7	64.5	242.3	41.7	148.3	174.6
Futures on long-term interest rates	21.6	1.2	2.8	17.6	0.6	5.5	15.5
Futures on currencies	16.6	0.9	4.5	11.1	1.0	4.2	11.4
Futures on stock market indices	12.2	0.3	0.8	11.0	0.1	0.2	11.9

* Contracts traded on the CBOT and CME-IMM.
** Data derived from "Large Trade" reports submitted to the CFTC for over twenty large US banks ans sevnty-five non-US banks.
Sources: CFTC and BIS calculations.

Table 4

New Interest Rate Swaps Arranged
by Type of Counterparty
Notional Principal Amounts, U.S. Dollars Billions

Counterparty	1988	1989	1990	1991
Between ISDA members	193.1	318.0	484.5	761.8
Financial Institutions	238.1	317.9	420.1	489.8
Governments	32.9	39.6	74.7	84.5
Corporations and others	98.2	139.4	210.6	270.3
Brokered and Unallocated	5.8	18.6	74.4	15.3
Total	568.1	833.5	1,264.3	1,621.7

Source: ISDA "Market Survey Highlights" for the years indicated.

Table 5

New Currency Swaps Arranged
by Type of Counterparty
Notional Principal Amounts, U.S. Dollars Billions

Counterparty	1988	1989	1990	1991
Between ISDA members	29.3	50.6	61.3	104.0
Financial Institutions	43.4	52.2	51.4	92.0
Governments	19.3	23.0	23.4	37.3
Corporations and others	29.1	46.2	75.9	89.8
Brokered and Unallocated	3.1	6.2	0.8	5.8
Total	124.2	178.2	212.8	328.9

Source: ISDA "Market Survey Highlights" for the years indicated.

Table 6

Main Features of Markets for Swap-related Derivative Products

Notional Principal Amounts Outstanding at Year-end 1991, U.S. $ Billions

Currency	Instrument	Outstandings	Percentage Change in Outstandings From: 1990	1989
U.S. Dollar	Caps	225,207	-10	+23
	Floors	73,157	-4	+38
	Collars and other combinations(1)	12,569	-62	-18
	Swaptions	56,554	-10	+21
	Total	367,487	-13	+23
Other Currencies	Caps	91,798	+35	+26
	Floors	56,027	+64	+103
	Collars and other combinations(1)	9,456	+93	+187
	Swaptions	52,423	+68	+155
	Total	209,704	+51	+69
All Currencies	Caps	317,004	-1	+25
	Floors	129,184	+17	+60
	Collars and other combinations(1)	22,025	-41	+15
	Swaptions	108,977	+16	+62
	Total	577,189	+3	+37

Sources: ISDA and Swaps Monitor

(1) Including participations and options on caps and floors.

Appendix III

Glossary of Terms.

Arbitrage: trading strategies designed to profit from price differences for the same or similar goods in different markets. Historically the term implied little or no risk in the trade, but more recently it has come to suggest some risk of loss or uncertainty about total profits.

Caps: an option-like contract for which the buyer pays a fee, or premium, to obtain protection against a rise in a particular interest rate above a certain level. For example, an interest rate cap may cover a specified principal amount of a loan over a designated time period such as a calendar quarter. If the covered interest rate rises above the rate ceiling, the seller of the rate cap pays the purchaser an amount of money equal to the average rate differential times the principal amount times one-quarter.

Clearing system (or clearing house arrangement): a mechanism for calculation of mutual positions within a group of participants with a view to facilitating the settlement of their mutual obligations on a net basis.

Collar: the simultaneous purchase of a cap and the sale of a floor with the aim of maintaining interest rates within a defined range. The premium income from the sale of the floor reduces or offsets the cost of buying the cap.

Commodity options: a contract providing the purchaser the right, but not the obligation, to buy or sell a given quantity of a commodity at a strike price, on or before a given date.

Commodity swaps: a transaction that allows an investor to exchange payment streams which are based on commodity prices. Commodity swaps involve swaps of payment streams only and are usually settled in cash. However, physical delivery may also occur. Commodity swaps enable producers and consumers to hedge commodity price risk. Usually, the consumer pays fixed, the producer floating.

Credit equivalent value: amount representing the credit risk exposure in off-balance sheet transactions. In the case of derivatives, credit equivalent value represents the potential cost at current market prices of replacing the contract's cash flows in the case of default by the counterparty.

Credit risk: the risk that a counterparty to a transaction will fail to perform according to the terms and conditions of the contract, thus causing the holder of the claim to suffer a loss.

Cross-currency interest rate swaps: a transaction involving the exchange of streams of interest rate payments (but not necessarily principal payments) in different currencies and often on different interest bases (e.g., fixed Deutsche Mark against floating dollar, but also fixed Deutsche Mark against fixed dollar).

Cross-currency settlement risk (or Herstatt risk): risk relating to the settlement of foreign exchange contracts that arises when one of the counterparties to a contract pays out one currency prior to receiving payment of the other. Herstatt risk arises because the hours of operation of domestic interbank fund transfer systems often do not overlap due to time zone differences. In the interval between final settlement of each leg, counterparties are exposed to credit risk and market risk.

Currency swaps: a transaction involving the exchange of cash flows and principal in one currency for those in another with an agreement to reverse the principal swap at a future date.

Current exposure method: term used in the Basle capital accord to denote a method of assessing credit risk in off-balance sheet transactions, consisting of adding the marked-to-market replacement cost of all contracts with positive value and an add-on amount for potential credit exposure arising from future price or volatility changes.

Discount swaps: also called off-market swaps, in which the fixed payments are below market rates. At the end of the swap, the shortfall is made up by one large payment. The credit risk taken on by the fixed rate recipient (usually the bank) increases with the discount applied to interest rates.

End-user (swap market): in contrast to a swap-trading institution, a counterparty which engages in a swap to change its interest rate or currency exposure. End-users may be non-financial corporations, financial institutions or governments.

Equity options: encompass a class of options giving the purchaser the right, but not the obligation, to buy or sell an individual share, a basket of shares, or an equity index at a predetermined price, on or before a fixed date.

Equity swaps: a transaction that allows an investor to exchange the rate of return (or a component there of) on an equity investment (an individual share, a basket or index) for the rate of return on another non-equity or equity investment.

Exercise price (also strike price): the fixed price at which an option holder has the right to buy, in the case of a call option, or to sell, in the case of a put option, the financial instrument covered by the option.

Floor: a contract whereby the seller agrees to pay to the purchaser, in return for the payment of a premium, the difference between current interest rates and an agreed (strike) rate times the notional amount should interest rates fall below the agreed rate. A floor contract is effectively a string of interest rate guarantees.

Forward rate agreement (FRA): a contract in which two counterparties agree on the interest rate to be paid on a notional deposit of specified maturity at a specific future time. Normally, no principal exchanges are involved, and the difference between the contracted rate and the prevailing rate is settled in cash.

Futures contract: an exchange-traded contract generally calling for delivery of a specified amount of a particular grade of commodity or financial instrument at a fixed date in the future. Contracts are highly standardized and traders need only agree on the price and number of contracts traded. Traders' positions are maintained at the exchange's clearinghouse, which becomes a ccunterparty to each trader once the trade has been cleared at the end of each day's trading session. Members' positions are marked to market daily at the clearinghouse and members must post margin. Most trades are unwound before delivery. The interposition of the clearinghouse facilitates the unwinding since a trader need not find his original counterparty but may arrange an offsetting position with any trader on the exchange.

Hedge funds: speculative funds managing investments for private investors (in the US, such funds are unregulated if the number of investors does not exceed one hundred).

Intraday credit (or daylight credit): credit extended for a period less than one business day; in a credit transfer system with end-of-day final settlement, daylight credit is tacitly extended by the receiving institution if it accepts and acts on a payment order even though it will not receive final funds until the end of the business day.

Interest rate swap: a transaction in which two counterparties exchange interest payment streams of differing character based on an underlying notional principal amount. The three main types are coupon swaps (fixed rate to floating rate in the same currency), basis swaps (one floating rate index to another floating rate index in the same currency), and cross-currency interest rate swaps (fixed rate in one currency to floating rate in another).

Intermediary (swap market): a counterparty who enters into a swap in order to earn fees or trading profits. Most intermediaries, or swap dealers, are major U.S. money-center banks, major U.S. and U.K. investment and merchant banks, and major Japanese securities companies.

ISDA: International Swap Dealers Association.

Margin: funds or collateral posted as a good-faith performance guarantee. Futures and options exchanges often require traders to post initial margin when they enter into new contracts. Margin accounts are debited or credited to reflect changes in the current market prices on the positions held. Members must replenish the margin account if margin falls below a minimum. In similar fashion, customers must post margin on positions held for them at the exchange clearinghouse by member firms.

Market liquidity: measured by participants as the extent to which their own actions (transactions) change the market price of an asset. A market is said to be liquid if the immediate reversal of a transaction does not involve losses (other than fixed transaction costs).

Market Liquidity Risk: the uncertainty associated with the market liquidity of a financial asset. Often considered as the risk that a (negotiable or assignable) financial instrument cannot be sold quickly and at a price close to its fundamental value.

Market risk: the risk of a change in the price of an asset.

Marking-to-market: the process of recalculating the exposure in a trading position or a portfolio (of securities, equities or derivatives) on the basis of current market prices.

Master Agreement: An agreement that incorporates the entire range of derivative (usually swap) transactions between two counterparties into one legal agreement.

Netting (or netting scheme): an agreed offsetting of positions or obligations by trading partners or participants in a system. The netting reduces a larger number of individual positions or obligations to a smaller number of positions. Netting may take several forms which have varying degrees of legal enforceability in the event of default of one of the parties.

Notional value (or notional principal): the face or principal value upon which the performance of a derivative contract is based. In general, notional values are not paid or received.

Off-balance sheet activities: banks' business that does not generally involve booking assets or liabilities. Examples include trading in swaps, options, futures, and foreign exchange forwards, and the granting of stand-by commitments and letters of credit.

Option: the contractual right, but not the obligation, to buy or sell a specified amount of a given financial instrument at a fixed price before or at a designated future date. A call option confers on the holder the right to buy the financial instrument. A put option involves the right to sell the financial instrument.

Original exposure method: a term used in the Basle capital accord to denote a method for assessing the credit risk in a derivatives portfolio, consisting of applying a standard set of conversion factors to the notional principal amounts of each instrument according to the nature of the instrument and its maturity.

OTC market (over-the-counter market): trading in financial instruments transacted off organized exchanges. Generally the parties must negotiate all details of the transactions, or agree to certain simplifying market conventions. In most cases, OTC market transactions are negotiated over the telephone. OTC trading includes transactions among market-makers and between market-makers and their customers. Firms mutually determine their trading partners on a bilateral basis.

Premium: the price paid for an option by an option holder to an option writer.

Settlement risk: between two counterparties, the risk that a counterparty to whom a firm has made a delivery of assets or money defaults before the amounts due or assets have been received; or the risk that technical difficulties interrupt delivery or settlement even if the counterparties are able to perform. In the latter case, payment is likely to be delayed but recoverable. Settlement risk exposes no-fault parties to credit, cash liquidity and market risk.

Swap: a financial transaction in which two counterparties agree to exchange streams of payments over time according to a predetermined rule. A swap is normally used to transform the market exposure associated with a loan or bond borrowing from one interest rate base (fixed term or floating rate) or currency of denomination to another.

Swaptions: an option to enter (or cancel) a swap.

Systemic risk: the risk that a disruption (at a firm, in a market segment, to a settlement system etc.) causes widespread difficulties at other firms, in other market segments or in the financial system as a whole.

Underlying: the designated financial instruments which must be delivered in completion of an option contract or a futures contract. For example, the underlying may be fixed-income securities, foreign exchange, equities, or futures contracts (in the case of an option on a futures contract).

Volatility: a measure of the variability of the price of an asset, usually defined as the annualized standard deviation of the natural log of asset prices.

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